

## **ENVIRONMENTAL REQUIREMENTS FOR CONSTRUCTION PROJECTS**

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### **PURPOSE AND SCOPE**

Legislation requires that the Client, under his 'Duty of Care' obligations, undertakes sensible monitoring in order to discharge this requirement.

The purpose of this document is to concisely define:

- the tasks to be undertaken
- timing
- responsibilities
- the required documentation

It is essential that UK Capital Delivery (electrical) for all of its contracts takes steps to protect the environment and ensure Quality Assurance and Compliance monitoring. This will ensure that contractors comply with the environmental requirements of the contract.

### **PART 1 – PROCEDURAL**

#### **1 RESPONSIBILITIES**

The key responsibilities associated with this procedure are summarised as follows:

##### **1.1 Project Manager (PM)**

The PM is responsible for the managing the environmental aspects of Capital Delivery projects in accordance with legislation, codes of practice and company policy and procedures. The PM must ensure compliance with all aspects of this procedure.

## **1.2 Project Engineer (PE)**

The PE has delegated responsibility from the PM and undertakes authority as directed.

## **1.3 Site Engineer (SE)**

The SE must ensure compliance with all aspects of this procedure from a site based perspective including sensible monitoring.

## **2 ENVIRONMENTAL PROCEDURES**

This procedure applies to all UK Capital Delivery (electrical) PMs and SEs (Direct or Indirect), with responsibility for the management and monitoring of construction projects. It is based on extracts from a number of procedures listed in 2.1 below. It is intended to provide specific task level guidance to clarify the procedural environmental requirements of PMs and SEs with respect to Capital Delivery Projects.

This procedure summarises the key requirements of the following procedures.

## 2.1 National Grid Environmental Policy

## 2.2 NGUK/PM/INV/1 - Incident Reporting and Investigation

| Task                                                                                                                                                                                                                                                                        | Notes/ Documentation to be produced | Responsible | When     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|----------|
| The PM, SE and the PC have a responsibility to report all incidents verbally to their line manager and by telephone to the SHES incident desk. This should be done as soon as possible but no later than one hour of the incident being brought under satisfactory control. |                                     | SE/PC       | Delivery |

## 2.3 UKBP/SE/002 - Safety and Environmental Audits

## 2.4 UKBP/SE/003 - Safety, Health and Environmental Communication (see Appendices B and C)

| Task                                                                                                                                                             | Notes/ Documentation to be produced                                                                                                                               | Responsible | When                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------|
| The PM and SE shall cascade relevant safety, health and environmental information to colleagues, the PC and any other persons affected by their work activities. | Site Induction Documentation, Tool Box Talks, Serious Event Notifications, SHE Bulletins, Team Talk Material, Intranet Environmental Documentation, HESAC Minutes | PM/SE       | Development<br>Delivery |
| The SE shall inform the PM of any site activities, which could have an environmental impact.                                                                     |                                                                                                                                                                   | SE          | Delivery                |

## 2.5 UKBP/SE/043 - Environmental Communications

| Task                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Notes/ Documentation to be produced                                                                                                                                  | Responsible | When                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------|
| <b>Communications Department Liaison</b><br>The PM shall consult with the Communications Department where necessary to determine the most suitable <b>internal</b> communication methods on environmental issues, depending on the importance of the information or the immediacy of its delivery.                                                                                                                                                   | Intranet, News Flashes, Team Talks, Environmental Training, Environmental Bulletins, special publications, company newspapers.                                       | PM          | Development Delivery   |
| <b>Schedule 9 Statement</b><br>The 'Schedule 9 Statement' includes a framework for ( <b>external</b> communication) consulting and communicating with the local community before and during the project works. This should be done in conjunction with the CO and Communications Department.                                                                                                                                                         | PR notices, fliers etc.                                                                                                                                              | PM/CO       | Development & Delivery |
| <b>External Enquiries</b><br>The PM shall immediately pass external enquiries e.g. from the public or external agencies, to the Communications Department who will deal with them appropriately. Publicly available information does not require approval from the Communications Department prior to supply.                                                                                                                                        | National grid Environmental Policy, Schedule 9 statement, Overhead or Underground Brochure, Sense of Place design Guide, National Parks Statement, Grantor's Charter | PM          | Development & Delivery |
| <b>Complaint or Enquiry</b><br>Anyone receiving a verbal or written complaint or enquiry shall obtain the name, address and telephone number of the external party and determine the basic nature, location and urgency of the communication. They shall reassure the external party that they will be contacted shortly. The PM receiving the enquiry will ensure that the SHE Business Partner is advised and can deal with the issue immediately. |                                                                                                                                                                      | PM          | Delivery               |

## 2.6 NGUK/PM/SHE/200 - Waste Management

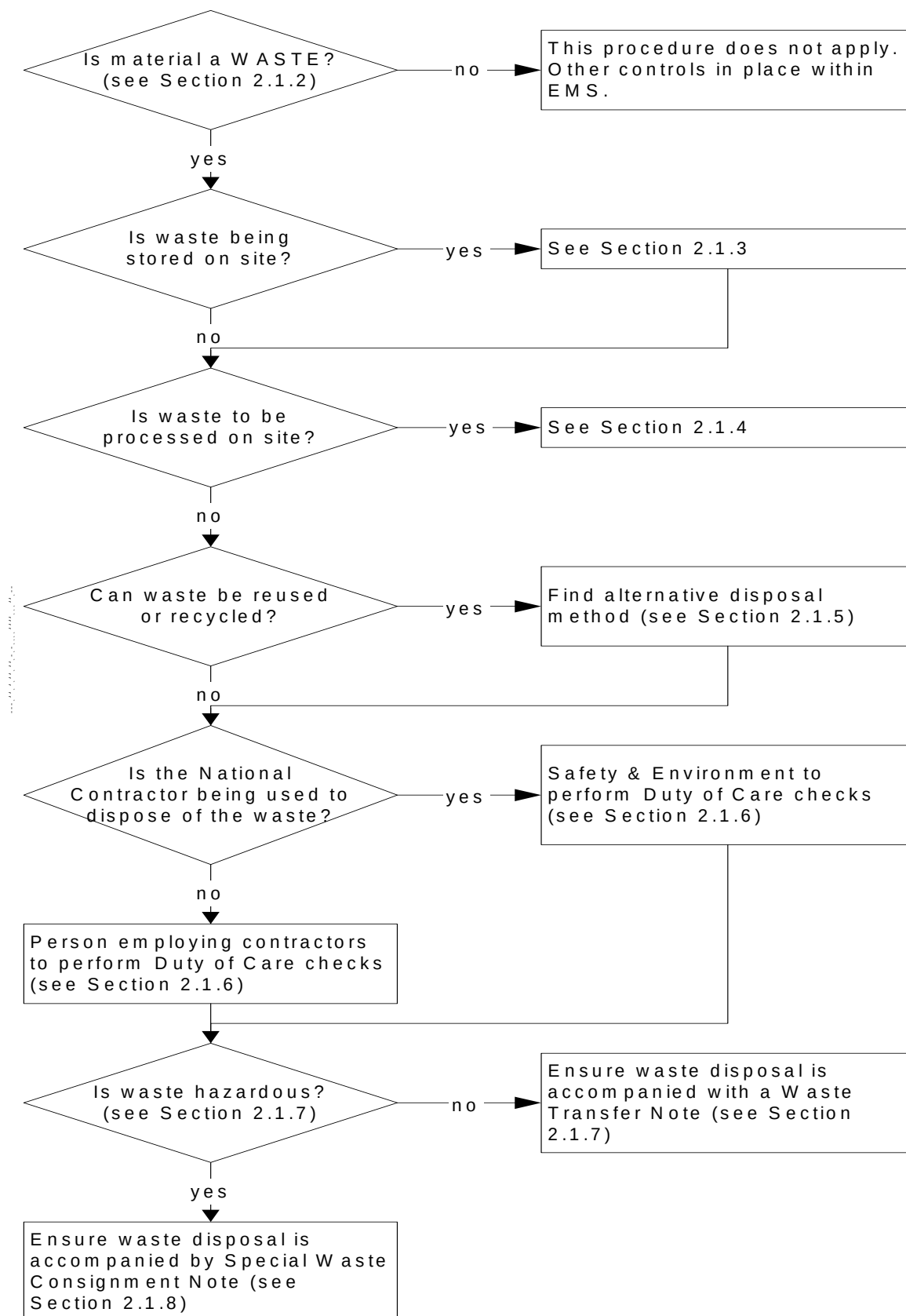
| Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Notes/ Documentation to be produced | Responsible | When     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|----------|
| <b>Waste Management Licence</b><br>Storage of certain waste materials requires a Waste Management Licence or an exemption known as Exempt Activities Not Requiring Registration e.g. general waste may be stored on site pending collection.<br><br>Non liquid waste (50M cubic) may be stored for up to 3 months in secured containers as long as the receiving site has not been designed for the receipt of waste.<br><br>Hazardous waste (50M cubic or 23,000 litres) can be stored on site.<br><br>For anything other than these the Se should consult the SHES Business Partner. | Waste Management Licence            |             |          |
| <b>Site Storage</b><br>The PC shall ensure waste materials are stored on site in a manner that prevents the escape of waste materials, eg. Covered skips, liquid tight containers. Liquid containers shall either be sited within a bund that will hold 110% of capacity or be self-bunded containers.                                                                                                                                                                                                                                                                                 |                                     | PC          | Delivery |
| <b>Waste Processing/Treatment</b><br>Processing or treatment of waste requires a Waste Management Licence or Exemption                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                     |             |          |
| All waste should be recycled where possible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                     | PC          |          |
| <b>Carriage/Disposal of Waste</b><br>Duty of Care is a legal process designed to control the carriage and disposal of waste. National Grid must ensure the waste it produces is:<br><br>Transferred only to an Authorised Person accompanied by a Waste Transfer Note.<br><br>Not able to escape from anyone's control.<br><br>Not illegally managed by anyone to whom it is transferred.                                                                                                                                                                                              | Waste Transfer Note                 | SE          |          |

| Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Notes/ Documentation to be produced                             | Responsible | When     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------|----------|
| <b>Registered Waste Carrier</b><br>An Authorised Person is a Registered Waste Carrier or the manager of a legitimate Waste Management Facility.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Waste Management Licence                                        |             |          |
| <b>Registered Waste Broker</b><br>If a third party employed by National Grid or one of its contractors, arranges waste disposal, and is neither the Waste Producer, the Registered Waste Carrier, nor the Manager of a Waste Management Facility, then he needs to be a Registered Waste Broker.                                                                                                                                                                                                                                                                                                                                                                                                                                              | Waste Management Licence                                        |             |          |
| <b>PE Responsibilities</b><br>Where a PC is employed to undertake work that produces waste it is the PC's responsibility as PRODUCER of the waste to carry out DUTY OF CARE checks (including Registered Waste Carriers, Registered Waste Brokers and Waste Management Licenses for Waste Management Sites or proof of Exemptions from licensing).                                                                                                                                                                                                                                                                                                                                                                                            | Duty of Care Evidence/Audit Reports<br>Waste Management Licence | PC          | Delivery |
| <b>SE Responsibilities</b><br>The SE shall carry out periodic DUTY OF CARE checks to ensure the PC is only using authorised persons and that all waste movements are accompanied by the relevant documentation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                 | SE          | Delivery |
| <b>Waste Transfer Note</b><br>Waste Transfer Notes are required when non-hazardous waste is transferred to a third party for removal from site. This must include:<br><br>The dates to which the Waste Transfer Note applies (up to one year).<br><br>Details of Waste Producer and the site of waste production.<br><br>Type of waste, quantity and packaging.<br><br>Name of the person receiving the waste and what they are authorised to do with it e.g. if they are a Registered Waste Carrier then can only transport it to the final disposal site that is authorised to accept the waste.<br><br>The European Waste Catalogue (EWC) Code - a six digit number provided to aid waste classification (from Waste Classification List). | Waste Transfer Note                                             |             |          |

| Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Notes/ Documentation to be produced | Responsible | When     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|----------|
| <b>Non Hazardous Waste</b><br>For non hazardous waste produced by the PC, the PC is responsible for raising the waste transfer note and carrying out appropriate duty of care checks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Waste Transfer Note                 | PC          | Delivery |
| The SE shall request copies of the Waste Transfer Notes and shall keep these in the Site Waste Management File for a minimum of 3 years. The SE shall also organise occasional Duty Of Care checks on waste movements to check that the waste is being managed legitimately.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Waste Transfer Note                 | SE          | Delivery |
| <b>Hazardous Waste Consignment Note</b><br>A Hazardous Waste Consignment Note shall be produced for every movement of Hazardous Waste. The Environment Agency shall be notified between one month and three days prior to the movement.<br><br>The following items should be checked:<br><br><u>Section A:</u><br><br>SWCN Number (succession number if more than one type of collection per annum.<br><br>Name and address of site from which waste is being removed.<br><br>Pre-notification date and removal date.<br><br>Name and address of receiving site. (Final disposal site that is authorised to accept the waste).<br><br>Name and signature of person completing pre-notification.<br><br><u>Section B:</u><br><br>Description of waste including EWC code.<br><br>Quantities being removed.<br><br><u>Section C:</u><br><br>Quantity of waste collected.<br><br>Registered Waste Carrier's registration number. | Hazardous Waste Consignment Note    |             |          |

| Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Notes/ Documentation to be produced | Responsible | When     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|----------|
| <p>Registration Number of vehicle used to transport the waste.</p> <p>Date and time of removal.</p> <p>Signature of Registered Waste Carrier.</p> <p><u>Section D:</u></p> <p>Signed and dated by Site Personnel.</p>                                                                                                                                                                                                                                                              |                                     |             |          |
| <p><b>Hazardous Waste</b><br/>For hazardous waste produced by the PC, the PC is responsible for producing the Hazardous Waste Consignment Note and carrying out appropriate Duty Of Care checks.</p>                                                                                                                                                                                                                                                                               | Hazardous Waste Consignment Note    | PC          | Delivery |
| <p>The SE shall request copies of the Hazardous Waste Consignment Notes and shall keep these in the Site Waste Management File for a minimum of 3 years. This SE shall also organise occasional Duty Of Care checks on waste movements to check that the waste is being managed legitimately.</p>                                                                                                                                                                                  | Hazardous Waste Consignment Note    | SE          | Delivery |
| <p><b>Information to SHES Directorate</b><br/>For waste arising from a PC's work, the SE shall provide the following information to the SHES department (Environmental Standards Manager).</p> <ul style="list-style-type: none"> <li>PC's name</li> <li>Date(s) of waste removal</li> <li>Type(s) of waste removed</li> <li>Volumes or weights of waste removed</li> </ul> <p>This should be provided on a monthly basis or on project completion on form NGUK/CD/BP 210E.01.</p> | NGUK/CD/BP 210E.01                  | SE          | Delivery |
| <p>The SE shall place all records and data in the Site Waste Management File or the project SHE file for the duration of the project.</p>                                                                                                                                                                                                                                                                                                                                          | Environmental Documentation         | SE          | Delivery |

## 2.6.1 NGUK/PM/SHE/200 – Applicability of Procedure

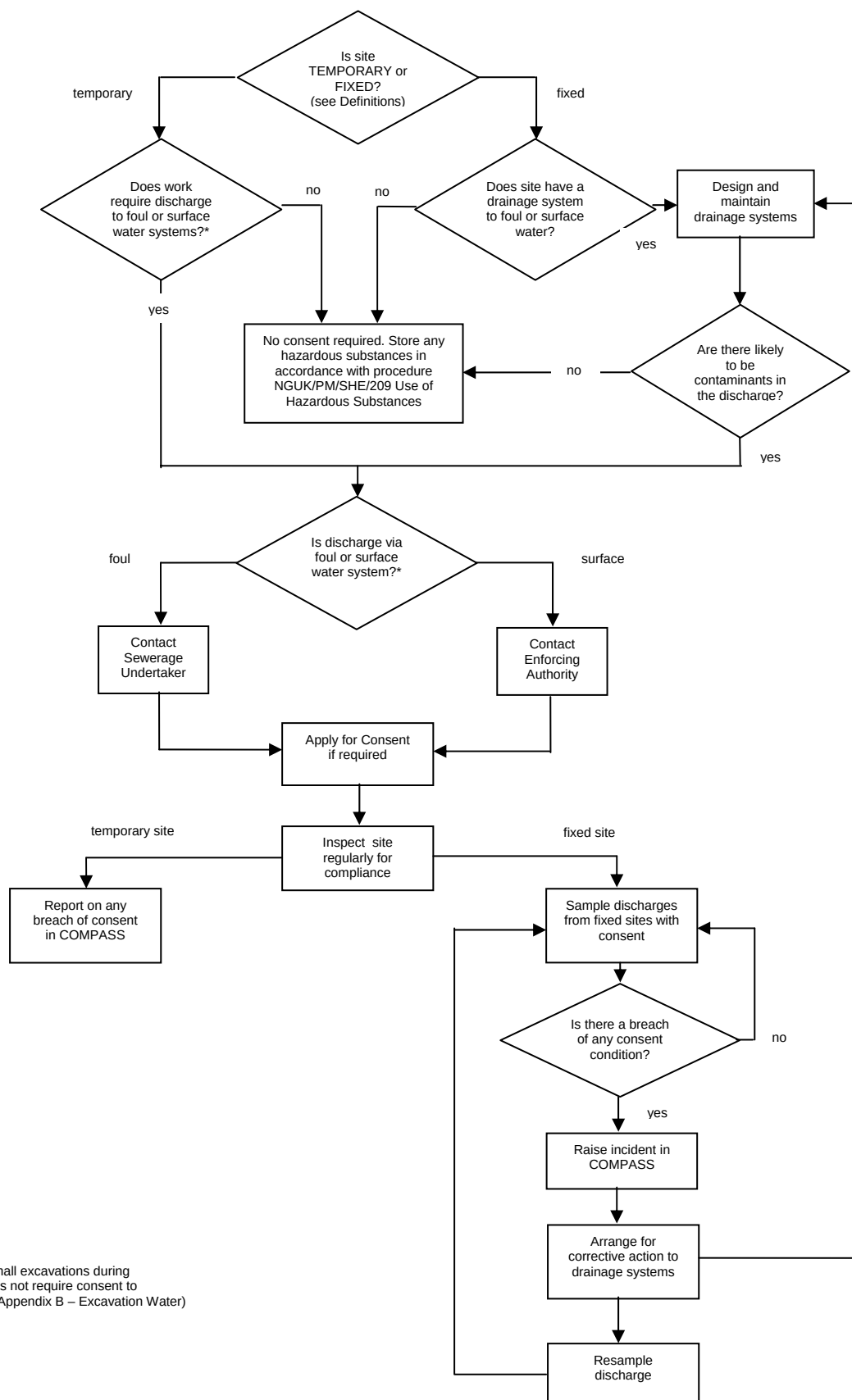


## 2.7 NGUK/PM/SHE/201 - Water and Effluent Discharges

| Task                                                                                                                                                                                                                                                                                                                                                                                                         | Notes/ Documentation to be produced | Responsible | When                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|------------------------|
| <b>NGUK/PM/SHE/201 - Water and Effluent Discharges</b>                                                                                                                                                                                                                                                                                                                                                       | See flowchart, table and app A      |             |                        |
| <b>Technical Specifications</b><br>All effluent and drainage systems shall comply with technical specifications:<br>NGTS 2.20 Oil Containment at Substations & Other Operational Sites<br>NGTS 2.10 Generic Technical Specifications for Civil Works<br>NGTS 2.1 Substations                                                                                                                                 |                                     | PE-LD       | Development & Delivery |
| <b>Discharge Consent</b><br>The SE shall ensure that no liquids or solid effluents (other than uncontaminated rainwater) are permitted to enter any surface water system (including soakaways) or foul sewer, without consent being obtained from the Environment Agency or Sewerage Undertaker respectively. In all cases where a discharge is planned the appropriate regulatory body should be contacted. | EA Consent                          | PM/SE       | Delivery               |
| Where consent is required and obtained for a discharge, the SE shall ensure a copy is provided by the PC and kept on site. The original shall be sent to SHES for retention. Where consent is not required by the regulatory body, confirmation should be obtained in writing and a copy kept on site. Copies should be forwarded to SHES who will make available on the intranet.                           | EA Consent                          | PM/SE       | Delivery               |
| The PC shall be made aware of the limitations of any consents. If a breach occurs then it shall be reported as an event in accordance with NGUK/PM/INV/1 and to the Environment Agency where necessary.                                                                                                                                                                                                      | EA Consent                          | SE          | Delivery               |
| No PC shall discharge any water or effluent from a National Grid site or into any part of a National Grid drainage or effluent system without the approval of the SE, who shall first consult the Occupier for Site Rules.                                                                                                                                                                                   |                                     | PC/SE       | Delivery               |

| Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Notes/ Documentation to be produced | Responsible | When     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------|----------|
| <p><b>Suspended Solids</b></p> <p>The SE shall ensure that during any Capital Delivery activities, the channel or bed of surface waters are not disturbed causing suspended solids in the water e.g. river, stream, beck, ditch.</p> <p>Where work is carried out on drainage systems, water courses and drainage ditches, and is likely to generate suspended solids e.g. concrete wash off, silt, fine soil, which are likely to breach existing discharge consent conditions, suitable precautions shall be established, which may include:</p> <ul style="list-style-type: none"> <li>• Closure of penstock valves during works and removal of contaminated water for disposal;</li> <li>• Installation of temporary settlement tanks (commercially available);</li> <li>• Installation of temporary control measures (e.g. damming watercourses with straw bales).</li> </ul> <p>Where it is likely that contaminated waters may leave site, or be generated off site, the local Environment Agency office should be consulted for guidance on acceptable control measures.</p> <p>During any work associated with controlled waters, or which may have an impact on controlled waters, the SE responsible for managing the site shall also ensure that the impact on the flora and fauna is considered and kept to a minimum. The SE should consult the CO.</p> | Risk Assessment / Method Statements | SE          | Delivery |
| The PC shall ensure that consent is obtained from the Environment Agency for any work associated with or adjacent to Controlled Waters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | EA Consent                          | PC          | Delivery |

## 2.7.1 NGUK/PM/SHE201 – Obtaining Consent to Discharge



\* Dewatering small excavations during streetworks does not require consent to discharge (see Appendix B – Excavation Water)

## 2.7.2 NGUK/PM/SHE/201 – CONTENTS OF SITE DRAINAGE PLAN

The Site Drainage Plan shall include, as a minimum, the following details marked in colour with an appropriately annotated legend.

- Primary/Secondary Oil Containment Systems
- Oil Separators
- Septic Tanks
- Soakaways
- Outfalls
- Discharge Consent sampling point (where appropriate)
- Spill kit locations
- Infalls/Inlets
- Surface water drains (marked blue with directional flow annotation)
- Foul water systems (marked red with directional flow annotation)
- Combined water systems (marked with colour depending on outfall ie. red to foul, blue to surface)
- Holding/Balancing Tanks (Oils, fuel, odorant etc)
- Manholes
- Catchpits
- Penstock Valve Chambers (or other final block off point)
- Pumping chambers
- Oil/Cable Trenches
- Access Roads
- Road gullies and drainage channels
- Buildings
- Perimeter Fence System
- Ownership boundary
- North Arrow

Other items forming an integral part of the drainage system shall be included as appropriate, including any redundant drainage and third party drainage systems.

The direction of water flow shall be clearly marked throughout.

The plan shall be to scale and shall not include extraneous information. It shall however include sufficient additional detail (eg supergrid transformers, plant structures, towers, streams, ditches, fences, hedges etc) to enable the above items to be quickly and easily located on and around the site. The penstock valve chambers necessary to isolate the drainage system in the event of a spillage shall be clearly marked.

A laminated, colour copy of the appropriate plan shall be displayed at each site on the control building notice board or in another prominent location and a copy retained in the site environment file. On receipt of a new or revised site drainage plan, the **Site Manager** shall compare the plan with site features to confirm accuracy of visible features.

If, at any time, it is noted that the plan does not accurately represent the as constructed condition, the SHES Business Partner shall be notified immediately.

On sites where it is proposed to carry out modifications to the drainage system the contractor shall be responsible for confirming the accuracy of the existing plan prior to the commencement of any work. Any inaccuracies shall be reported to National Grid.

On completion of all work the contractor shall be responsible for producing and/or updating the plan as necessary, confirming its accuracy and ensuring it is checked and approved prior to issue to National Grid

### 2.7.3 NGUK/PM/SHE/201 – Circumstances Where Consent May be Needed

The circumstances in which a consent is, or may be, required are detailed below. In all cases the local Environment Agency office should be contacted for definitive confirmation regarding any proposed discharges.

| Issue                                                                                                                                                                                                                                      | EA Discharge Classification  | Appropriate Control Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Consent Required |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Anti-freeze Boilers</b> – used on holder sites to prevent water seal from freezing. Also used on LNG sites.                                                                                                                             | Trade Effluent               | Discharge should be to foul sewer. The appropriate Enforcing Authority should be consulted to determine whether a consent is required. If a consent is not required then written confirmation shall be obtained.                                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes<br>(EA/SU)   |
| <b>Bund Water (transformers and large oil storage tanks)</b> – bund water discharged into surface water system has the potential to contain oils                                                                                           | Trade Effluent               | Any water collected in transformer bunds or bunds around large oil storage tanks shall be passed through an oil separator prior to discharge to surface water or foul water drainage system. Collected water should be manually pumped to the surface water system or automatically by a bund water control unit. Oils collected in sumps shall be removed by manual pump and sent for disposal as a hazardous waste.                                                                                                                                                                                                                            | Yes<br>(EA/SU)   |
| <b>Bund Water</b> – bund waters and accumulated water in spill trays discharged into surface water system has the potential to contain contaminants                                                                                        | Trade Effluent               | Any water collected in bunds or spill trays shall be pumped out to a grassy area unless it shows signs of contamination where it shall be collected and disposed of as waste (possibly hazardous waste, depending on content).                                                                                                                                                                                                                                                                                                                                                                                                                   | No               |
| <b>Car Parking</b> – risk of oil/fuel contamination from engine leaks and spills                                                                                                                                                           | Uncontaminated surface water | The EA does not normally consent car parks, although they may do so if the receiving watercourse is very sensitive. The installation of an oil interceptor will reduce the risk of fugitive oil loss reaching surface waters. This is an EA requirement if there are over 250 car spaces.                                                                                                                                                                                                                                                                                                                                                        | Not normally     |
| <b>Cable Cooling Water</b> – abstracted from canals/ boreholes and then discharged back to surface waters. As water is for cooling underground cables it has the potential to be discharged at a warmer temperature than receiving waters. | Trade Effluent               | The sites where water is abstracted for cooling purposes are generally closed systems. The discharged water shall not be significantly different in quality to the abstracted water. The abstraction requires consent from the Enforcing Authority (borehole) or British Waterways (canals) as well as the discharge.                                                                                                                                                                                                                                                                                                                            | Yes<br>(EA)      |
| <b>Concrete and Cement Water</b> – construction activities can generate an effluent due to the use of concrete and cement, commonly occurring from concrete wash-out skips                                                                 | Trade Effluent               | The use of concrete is of major concern especially near watercourses due to its highly alkaline nature. Concrete and cement should not be discharged to any watercourse. The most cost effective management system is to contain water within concrete washout skips for re-use on site (i.e. in making next batch of concrete). It is acceptable to dispose of this effluent via the foul sewer (with permission from the sewage undertaker) following settlement. The final option is for the water to be tankered off site for disposal in line with Duty of Care. It is not acceptable for wash-out water to be discharged to surface water. | Yes<br>(SU)      |

| Issue                                                                                                                                                                                                                                       | EA Discharge Classification | Appropriate Control Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Consent Required                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| <b>Condensing Boilers</b> – discharges from condensing boilers used as preheaters on AGIs are acidic and can be of a considerable volume                                                                                                    | Trade Effluent              | Discharge should be to a limestone soakaway or to foul sewer. The appropriate Enforcing Authority should be consulted to determine whether a consent is required for any new installations. If consent is not required then written confirmation shall be obtained.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes<br>(EA/SU)                    |
| <b>Construction Activities</b> – has the potential to release many polluting materials both as accidental spillages or as a planned discharge.                                                                                              | Site Drainage               | Refer to the guidance documents:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG06 – Working at construction and demolition sites, Environment Agency</a></li> <li><a href="#">Pollution Prevention Guidance PPG20 – Dewatering underground ducts and chambers, Environment Agency</a></li> <li><a href="#">CIRIA Report C532 Control of water pollution from construction sites, CIRIA</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Possible Temp. Consent<br>(EA/SU) |
| <b>Excavation Water (large excavations greater than 5m<sup>3</sup>)</b> – may contain suspended sediment or hazardous materials                                                                                                             | Site Drainage               | Excavated water should ideally be disposed of via the foul sewer. It is not acceptable for silty water to be discharged to surface water. Silt can be removed by settling out in a settlement tank, pond or lagoon, and/or allowing it to infiltrate through a large area of grassy ground, geotextile filters, straw bales or a skip containing fine aggregate prior to discharge to controlled waters or sewage systems. Effluent likely to contain hazardous materials from contaminated land, broken gas mains or damaged foul sewers shall be contained, analysed and tankered away for disposal as a hazardous waste.                                                                                                                                                                                                                                                                                                                                                                                                    | Yes<br>(EA/SU)                    |
| <b>Excavation Water (small excavations less than 5m<sup>3</sup>)</b> – may contain suspended sediment or hazardous materials                                                                                                                | N/A                         | The operator shall check the quality of the water in the excavation prior to opting for the appropriate disposal method. If there are any doubts about the quality of the water (eg if the site is heavily contaminated with oil/suspended solids/other hazardous substances or there are contaminants from a damaged foul sewer/broken gas main) it should be contained & removed to a licensed waste disposal site/treatment facility. Any light contamination by oil can be removed from the surface water with absorbent materials prior to discharge. Dewatering shall be undertaken carefully in order to minimise silt & other suspended solids in the discharge. Low velocity pumps should be used in dewatering with the suction end positioned off the bottom of the excavation. Discharges should be directed across grass covered ground where possible (with permission of any private owners) or through silt traps if discharged directly to a drain (ideally a drain to foul sewer rather than surface water). | No                                |
| <b>Filter, PIG and Equipment Washing</b> – washing of gas filters from the transmission system may contain NORM, condensate, oil and greases. Equip. & turbine washing may release solvents/detergents/degreasers/oil/grease & metal solids | Trade Effluent              | Filters shall be removed and washed in dedicated purpose built areas. Equipment shall be washed in dedicated areas and never discharged via an interceptor. Hazardous substances from the cleaning operations shall be contained and tankered from site as a hazardous waste. NORM dust shall be disposed in accordance with procedure NGUK/PM/SHE/215.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A                               |

| Issue                                                                                                                                                               | EA Discharge Classification | Appropriate Control Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Consent Required |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Fire Water</b> – the discharge of firewater can have a significant impact upon the environment especially if other materials are contained within the discharge. | N/A                         | Refer to the Environment Agency guidance document:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG18 – Control of spillages and fire fighting run-off</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No               |
| <b>Gas Holders</b> – discharges from drainage of gas holders may contain dissolved methane, oil/grease, heavy metals, condensate or phenol                          | Trade Effluent              | Discharge shall be via site effluent treatment as appropriate including weirs/sparges to reduce dissolved methane, reed beds to reduce heavy metals and interceptors to eliminate oils and ensure consent conditions are met.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes<br>(EA/SU)   |
| <b>Major Spillages</b>                                                                                                                                              | N/A                         | Refer to the Environment Agency guidance document:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG18 – Control of spillages and fire fighting run-off</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No               |
| <b>Oil Separators</b> – used in order to remove oil from discharges                                                                                                 | Trade Effluent              | Oil separators can control what is discharged from sites. Under no circumstances should effluent containing detergents, such as soaps, car shampoo or washing up liquid be discharged into any drainage system that is connected to an oil/water separator. Failure to comply with this may lead to the emulsification of the oil in the separator and the occurrence of a non-compliant discharge.<br><br>Refer to the Environment Agency guidance documents:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG03 – The use and design of oil separators</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                | Yes<br>(EA/SU)   |
| <b>Sewage (Cesspools/Cesspits)</b> – no discharge from tank.                                                                                                        | Sewage Effluent             | A cesspit is a covered watertight tank used for receiving and storing sewage and has no outlet. It relies on road transport for the removal of raw sewage. Sewage removal should be carried out by an operator registered for the carriage of such waste by the EA. It is generally considered the best option for unmanned site or small sites with no sewer connection as no discharge occurs hence no consent is required. However, it is important that sites review how often sewage is being removed from the tank, as it is commonplace for surface water to find its way into the tank, which is not only expensive to remove but also creates additional environmental impact through the increased traffic visiting the site. Refer to the Environment Agency guidance document:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG04 – Disposal of sewage where no mains drainage is available</a></li> </ul> | No               |
| <b>Sewage (Foul Sewer)</b> – sewage discharged into the foul sewer.                                                                                                 | Sewage Effluent             | A consent from the local sewage undertaker is not required to discharge sewage into the foul sewer. Sites shall ensure that no other materials are discharged. It is illegal to dispose of materials to sewer, other than sewage, without the consent from the relevant sewage undertaker.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | No               |
| <b>Sewage (Package Plants)</b> – e.g. Biobubble, Biodisc.                                                                                                           | Sewage Effluent             | All package treatment plants use the aerobic (with oxygen) digestion process to treat sewage. In this process, oxygen-using bacteria attack and break down the organic portions of the sewage into simpler inorganic compounds. These plants need to be maintained and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Yes<br>(EA)      |

| Issue                                                                                                                                                                                                           | EA Discharge Classification  | Appropriate Control Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Consent Required |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|                                                                                                                                                                                                                 |                              | used regularly in order for them to work efficiently. They are not a good choice for unmanned sites as periods of inactivity can lead to compliance problems. The plants are normally connected so that they discharge into a surface water feature. Any discharge to surface water will require prior consent from the Enforcing Authority.<br>Refer to the Environment Agency guidance document:<br>Pollution Prevention Guidance PPG04 – Disposal of sewage where no mains drainage is available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
| <b>Sewage (Small Septic Tank)</b> – septic tank systems that discharge to groundwater via a soakaway. Where the volume is less than 5 cubic metres (1,100 gallons) per day (equates to 25 people).              | Sewage Effluent              | A septic tank system consists of three major components: the septic tank, a distribution device and an absorption field. A septic tank is a large, watertight, corrosion-resistant, buried container that receives raw sewage. After primary treatment in the septic tank, the liquid effluent flows through the distribution device in to the absorption field. The absorption field is a subsurface leaching area within the soil that receives the liquid effluent from the distribution device and distributes it over a specified area where it is allowed to seep into the soil. The filtering action of the soil, combined with further bacterial action, removes disease organisms and treats the harmful material in the effluent, completing the treatment process so that the water is recycled to the surface or groundwater source.<br>Septic tanks that are discharging to surface water are generally not allowed. If the volume is less than 5 cubic metres no consent is usually required unless the site is particularly sensitive. A septic tank should be desludged and serviced on a regular basis to ensure the effective operation of the system. Desludging should normally take place every 12 months and should be carried out by an operator registered for the carriage of such waste by the EA.<br>Refer to the Environment Agency guidance document:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG04 – Disposal of sewage where no mains drainage is available</a></li> </ul> | Not normally     |
| <b>Sewage (Large Septic Tank)</b> – septic tank systems that discharge to groundwater via a soakaway. Where the volume is greater than 5 cubic metres (1,100 gallons) per day (equates to more than 25 people). | Sewage Effluent              | As above but consent to discharge will be required.<br>Refer to the Environment Agency guidance document:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG04 – Disposal of sewage where no mains drainage is available</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Yes (EA)         |
| <b>Surface Water (uncontaminated)</b> –run-off from hardstanding and vehicle access areas                                                                                                                       | Uncontaminated surface water | If water is free from contaminants it can be discharged to controlled waters as well as foul sewer. As a precaution, pass this water through an oil interceptor before discharge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Not normally     |

| Issue                                                                                                                                                                                            | EA Discharge Classification | Appropriate Control Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Consent Required                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| <b>Surface Water (contaminated)</b> – run-off from areas where spillage of substances may occur frequently                                                                                       | Site Drainage               | This water could contain potentially poisonous, noxious or polluting matter. This water shall be passed through an oil interceptor before discharge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes<br>(EA/SU)                          |
| <b>Vehicle Washing</b> – vehicle washing shall only be carried out in appropriately designed areas. Advice from the Enforcing Authority should be sought in all cases before a discharge occurs. | Trade Effluent              | Where vehicle washing is necessary on sites, this shall be carried out in an appropriately designed area with a raised kerb with the effluent being discharged to the foul sewer or a tank. Discharges to the foul water sewer requires the formal approval of the sewerage undertaker and prior authorisation shall be obtained. Details of the likely discharge (including detergents) shall be required when gaining the necessary approval. New connections to the sewerage system may be subject to Building Regulation approval. Alternatively a water recycling system may be installed where large volumes of water are used or no foul sewer is available.<br>Refer to the Environment Agency guidance document:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG13 – High Pressure Water and Steam</a></li> </ul> | Yes<br>(SU)                             |
| <b>Water Bath Heaters</b> – water and anti-freeze maybe discharged during maintenance containing ethyl glycol, dosing chemicals and sludge                                                       | Trade Effluent              | Water bath heater shall be surrounded with temporary bunding where practicable during maintenance activities. Effluent shall be removed as hazardous waste in a tanker if recycling is not possible. If discharged to surface waters, consent is required via the Enforcing Authority.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Yes<br>(EA)                             |
| <b>Work in or Near Controlled Waters</b> – any work in or near any controlled waters increases the risk of pollution                                                                             | N/A                         | Before any work is undertaken in, near or over any controlled waters the following Environment Agency guidance documents should be consulted:<br><ul style="list-style-type: none"> <li><a href="#">Pollution Prevention Guidance PPG05 – Works in near or liable to affect watercourses</a></li> <li><a href="#">Pollution Prevention Guidance PPG23 – Maintenance of Structures over Water</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Possible<br>Temp.<br>Consent<br>(EA/SU) |
| <b>Workshops/Laboratories</b> – discharges may contain hazardous substances such as solvents, oils, acid, alkali or solids                                                                       | Trade Effluent              | Quantities of hazardous substances used should be minimised. Consent shall be obtained from the sewerage undertaker prior to any discharge to foul sewer. Discharges may not be via controlled waters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Yes<br>(SU)                             |

2.7.4 NGUK/PM/SHE/201 – Environmental Risk Warning Notice

## Warning - Environmental Risk

This site is **NOT** connected to the main sewage system. Liquid passing through all waste systems is processed by a biological effluent treatment system, including waste from:

- ◆ All toilets and urinals
- ◆ All hand wash basins
- ◆ All showers
- ◆ Mess room, Battery room and cleaning cupboard sinks
- ◆ External concrete pad

The following precautions **MUST** be complied with to ensure continued operation of the treatment process. Failure to comply may result in discharge of untreated effluent or other pollutants.

- 1) Cleaning products: (refer to supplier)
  - ◆ Do not use products which may affect biological growth
  - ◆ Do not use products which may affect the solubility of oxygen
  - ◆ Do not use products which may react with dissolved oxygen
  - ◆ Use products with pH between 6-8
  - ◆ Never discharge cleaners or disinfectants which are acidic, kill bacteria or react with oxygen**DO NOT USE BLEACH**
- 2) Remove as much oil/grease from pans, etc. Never dispose of oil via this system.
- 3) Do not dispose of solid waste via this system, e.g. sanitary products, etc.
- 4) Do not dispose of noxious substances, chemicals, paints, etc. via this system.
- 5) Take care when jetting or rodding the drainage system to avoid 'forcing' liquid through the disposal system.

### IN THE EVENT OF AN INCIDENT:

e.g. accidental release of chemical to drainage system, carry out the following actions:

- 1) Control discharge by applying absorbent material, damming or plugging as appropriate.
- 2) Cease discharge or potential discharge into system by isolating main water supply and notifying other users.
- 3) Bung outlet from treatment system – refer to site drainage plan for suitable points. **(PERSONNEL MUST NOT ENTER CATCHPITS OR CHAMBERS)**
- 4) Contact emergency response contractor to carry out remedial operations – refer to Emergency Folder.
- 5) Contact line management – refer to site procedures and Emergency Folder.

## 2.8 NGUK/PM/SHE/203 - Management of Project Environmental Impacts

| Task                                                                                                                                                                                                                                                                                                                                                                                                 | Notes/ Documentation to be produced                                            | Responsible | When        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------|-------------|
| <b>NGUK/PM/SHE/203-Management of Project Environmental Impacts (Including Environmental Requirements of SHE Plans)</b>                                                                                                                                                                                                                                                                               |                                                                                |             |             |
| <b>SHE Plan</b><br>The SHE Plan shall be produced at the development stage by the Development Engineer taking into account all environmental aspects of the site.                                                                                                                                                                                                                                    | Pre-Tender SHE Plan                                                            | DE          | Development |
| <b>Environmental Report</b><br>Where consent/planning permission is required but the scheme does not fall under the EIA Regulations, the PM should consult with the Consents Officer to determine if an Environmental Report shall be produced.                                                                                                                                                      | Environmental Report                                                           | CO          | Development |
| <b>Scheme Development</b><br>The PM shall ensure that the requirements of TP146 Scheme Development & Delivery are followed.                                                                                                                                                                                                                                                                          | Pre-Tender SHE Plan<br>Surveys<br>Site SHE File                                | PM/DE       | Development |
| <b>Environmental Impact Assessment &amp; Environmental Statement</b><br>These will form part of the consent application (if consent of planning permission is required). During development Land & Development shall ensure that an Environmental Impact Assessment (EIA) is undertaken and that an environmental statement is prepared to identify the potential impacts associated with the works. | Environmental Impact Assessment & Environmental Statement                      | CO          | Development |
| The SE shall ensure that any necessary mitigation measures shall be implemented, monitored and inspected during and on completion of the works.                                                                                                                                                                                                                                                      | Risk Assessment / Method Statements<br>/ Specification for Mitigation Measures | SE          | Delivery    |

| Task                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Notes/ Documentation to be produced    | Responsible | When              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------|-------------------|
| <b>Schedule 9 Statement</b><br>Even where construction does not require consents or planning permission National Grid's Schedule 9 statement requires that Capital Delivery and Land & Development shall undertake an assessment of environmental and community impacts. An appropriate assessment for work affecting sites designated under the EU Habitats Directive will be required if the impact is significant. The PM will undertake a post construction review before the scheme is closed. | Post Construction Review Report        | PM/CO       | post construction |
| <b>Occupier</b><br>The PM shall inform the occupier of any ongoing monitoring or landscape maintenance requirements.                                                                                                                                                                                                                                                                                                                                                                                |                                        | PM          | post construction |
| <b>Electricity Environmental Requirements</b><br>The PM shall forward a copy of the Generic Environmental Aspects Register to the Tenderers. This details the generic environmental considerations that need to be complied with by Contractors.                                                                                                                                                                                                                                                    | Generic Environmental Aspects Register | PM          | enquiry           |
| <b>Pre Tender SHE Plan</b><br>The PM shall ensure that a Pre-tender SHE Plan is produced if one has not been produced as part of the scheme development.                                                                                                                                                                                                                                                                                                                                            | Pre-Tender SHE Plan                    | PM          | hand over         |
| The PM shall provide the Pre-tender SHE Plan to the PC who shall develop it into the Construction Phase SHE Plan.                                                                                                                                                                                                                                                                                                                                                                                   | Pre-Tender SHE Plan                    | PC          | enquiry           |
| <b>SHE Plan</b><br>The SE shall ensure that the PC properly reviews, revises and implements the SHE plan. This shall include checks on the: <ul style="list-style-type: none"> <li>Implementation of procedures to control environmental impacts and to comply with legislation;</li> </ul>                                                                                                                                                                                                         | Construction SHE Plan                  | SE          | Delivery          |