

### MARC - Environmental Risk Assessment

**Name of Operator:** National Grid – Meter Assessment & Recycling Centre

**Name of Site:** NATIONAL GRID, MARC, UNIT 8 NEXUS POINT, PAVILION DRIVE  
BIRMINGHAM B6 7DB.

The Environmental risks assessed within this document focus on specific areas of environmental impact / risk related to the sorting and segregation of hazardous and non-hazardous components from displaced gas meters and associated equipment [**Appendix I**].

Similar activities to a Standard permit 14 Materials Recycling facility will be undertaken at the site and associated risks within the standard EA risk assessment apply. All wastes processed within the facility will be wholly owned by National Grid.

Likelihood and Severity / Quantity are assigned in line with National Grid Management Procedure for Environmental Aspects NGUK/PM/SHE/211 – [**Appendix II**]

#### Summary

The inherent risk from the processes to be carried out on site are **MINOR**, risks of pollution to Air, Land and Water are minimal in normal operations, facilities and procedures are in place to manage abnormal and emergency occurrences.

The risk of hazardous materials escaping to Air, Land and Water is minimal – Mercury contained within the tilt tamper switches are well contained and risk of accidental rupture / escape is minimal.

Mechanical separation of Hazardous from the Non-hazardous parts of the Meters have been designed to avoid direct contact with the Mercury switch and will not compromise the integrity of the individual containment units.

Resultant wastes from the process will be segregated for collection / recycling and are to be stored in designated areas within a secure environment depending on the nature of the waste to prevent unauthorised access and prevent escape.

Location of main operations and potential receptors are detailed in [**Appendix III**].

ASPECT	ENVIRONMENTAL IMPACT SUMMARY	Risk / Impact Management	Likelihood	Severity	Score	Significant
<p><b>NUISANCE</b></p> <p><b>NOISE</b></p>	<p>Noise generated from the Sorting activity in <b>[NORMAL Operations]</b> is the process which generates the most noise on site. This activity takes place inside the building which prevents noise disruption to neighbouring businesses and wildlife.</p> <p>The building is in an industrial estate away from residential areas.</p> <p>Operations occur only within specified hours: Mon-Fri (8-4).</p> <p>The loudest activity is gas meters being placed into scrap bins – these have all been fitted with rubber lining limit the noise impact.</p>	<p>Review noise levels on site periodically - SHS Representatives</p> <p>Carry out regular Noise Risk Assessments.</p> <p>UK/T1/8.8.4/S - Statutory Nuisance Standard</p>	2	2	4	N
	<p>Noise from mechanical separation process in <b>[NORMAL Operations]</b>–</p> <p>This operation will be housed within the enclosed part of the building, the shearing activity is fully enclosed reducing noise. The mechanical action utilises a hydraulic action which also reduces noise.</p> <p>The building is in an industrial estate away from residential areas.</p>	<p>Review noise levels at agreed frequency</p> <p>Regular maintenance schedule for machinery.</p> <p>Carry out regular Noise Risk Assessments.</p> <p>UK/T1/8.8.4/S - Statutory Nuisance Standard</p>	1	2	2	N
	<p>Noise from Delivery / Collection of materials, <b>[Normal Operations]</b> -</p> <p>Delivery and collection areas located away from Residential areas, Deliveries and collections are undertaken within normal working hours. Efficient loading and unloading processes reduce duration of noise from these activities.</p>	<p>Collections/ Delivery within Normal working hours.</p> <p>Planned maintenance schedule for all National Grid vehicles.</p> <p>UK/T1/8.8.4/S - Statutory Nuisance Standard</p>	1	2	2	N

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<p><b>LIGHT</b></p>	<p>Outside of the building has security lighting. No recorded Nuisance / Light related complaints relating to existing activities.</p> <p>Lighting of site necessary to ensure security of stored National Grid Assets.</p>	<p>UK/T1/8.8.4/S - Statutory Nuisance Standard</p>	<p>1</p>	<p>1</p>	<p>1</p>	<p>N</p>
<p><b>ODOUR</b></p>	<p>Fugitive emissions of gaseous odour from <b>[Normal Operations]</b>, a residual odour will remain within the asset as composite materials will become impregnated with odorant.</p> <p>Storage areas located away from residential areas.</p> <p>Minimal impact as odour is readily diluted within the air and site is on an industrial estate away from residential areas.</p> <p>No recorded instances of odour related complaints from local residents or neighbouring operations at previous site.</p>	<p>Ensure removed assets pending processing are capped and stored in closed Magnum containers.</p> <p>Regular collection of accumulated wastes to reduce residual odours.</p> <p>Regular site inspections by responsible managers.</p>	<p>1</p>	<p>2</p>	<p>2</p>	<p>N</p>
<p><b>FIRE</b></p>	<p>In the <b>[ABNORMAL / EMERGENCY]</b> Event of Fire – local residents and neighbouring businesses would be affected.</p> <p>Unlikely occurrence, no sources of direct ignition are utilised within the facility, combustible wastes are segregated and stored in secured containers. Emergency fire procedures are in place on site.</p>	<p>Site Fire procedures in place.</p> <p>Emergency response procedures in place.</p> <p>Trained Fire Marshals and Fire Extinguishers on site.</p> <p>UK/T1/9.0.1/S - Emergency Response &amp; Preparedness Management Standard</p> <p>UK/T1/8.8.4/S - Statutory Nuisance Standard</p>	<p>2</p>	<p>3</p>	<p>6</p>	<p>N</p>
<p><b>LITTER</b></p>	<p>In <b>[Normal Operations]</b> wastes stored pending collection will be suitably contained to mitigate risk of litter complaints for neighbouring businesses. The majority of materials are unlikely to escape from designated containment due to weight of waste fractions – i.e. Metals, Scrap Metals. Other wastes generated such as general wastes from welfare facilities will be stored in closed skips. Moderate quantities (3) – Very Unlikely occurrence (1)</p>	<p>Regular site inspections by responsible managers.</p> <p>UK/T1/8.8.4/S - Statutory Nuisance Standard</p>	<p>3</p>	<p>1</p>	<p>3</p>	<p>N</p>

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<b>Fugitive Release of Substances TO AIR</b>	<p>No significant releases to air from the processes from <b>[Normal Operations]</b>, residual gas within removed meters will release to atmosphere, however minimal quantities within domestic meters. Purging of Industrial and Commercial meters undertaken at point of removal. Activities situated away from residential areas – Natural dispersion will occur. Although quantities in normal operations are minimal, Ch4 categorised as a climate change gas – hence score of 4 (Severity).</p>	<p>Ensure meters pending assessment are suitably contained, capped and within closed magnum containers.</p> <p>Ensure regular collection of accrued wastes to minimise emission potential.</p> <p>Regular checks on stored materials by site representatives.</p> <p>UK/T1/8.8.1/S Waste Management Standard</p>	2	4	8	N
	<p>Vehicle emissions from Delivery / Transportation vehicles and Fork-lifting activities minimal in <b>[Normal Operations]</b>– Vehicles are well maintained, and LPG forklift utilise to reduce emissions. Although quantities in normal operations are minimal Ch4 categorised as a climate change gas – hence score of 4 (Severity)</p> <p>Site situated in industrial area away from residential areas.</p>	<p>Regular maintenance regime for National Grid vehicles (managed by 3<sup>rd</sup> Party Haulier).</p> <p>NG dedicated fleet fuelled by Compressed Natural Gas (CNG).</p> <p>Deliveries / collections to be overseen</p> <p>NGUK/PM/SHE/208 Transport and the Environment</p>	1	4	4	N
<b>TO LAND</b>	<p>Minimal risk of pollution to land in <b>[Normal Operations]</b> – Operations to be undertaken on hard standing impervious surfaces.</p> <p>No liquid wastes resulting from Meter Assessment &amp; Recycling Centre</p>	<p>Regular site checks to ensure suitability of containment vessels by responsible manager.</p>	1	2	2	N
	<p>In <b>[ABNORMAL occurrences]</b> Fugitive release of fuel from delivery / collection vehicles recognised in emergency situations only.</p>	<p>Emergency spill kits located in strategic areas on site.</p> <p>Periodic emergency training facilitated for operational personnel.</p>	2	3	6	N

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		UK/T1/9.0.1/S Emergency Preparedness and Response				
	Fugitive release of Mercury to land from within waste meters is highly unlikely in <b>[Normal Operations]</b> ,  Elemental Mercury will <u>not</u> be exposed as part of the process. Containment of Mercury within the meters and the Indices / modules is robust. Segregation process designed to separate meter index and module containing Mercury switch.	Daily monitoring of resultant waste streams from mechanical process. Nominated Operatives.  Maintenance schedule for machinery via contractor.  Multiple Spill Kits on site.  UK/T1/9.0.1/S Emergency Preparedness and Response	1	1	1	N
	<b>[Abnormal / Emergency Occurrences]</b> - Should fugitive escape occur volume of mercury within the tilt tamper switches is minimal = approx 1g – Likelihood of multiple releases is highly unlikely.	Periodic emergency training facilitated for operational personnel.  Multiple Spill Kits on site.  UK/T1/9.0.1/S Emergency Preparedness and Response	2	1	2	N
	Batteries – Fugitive release of materials from within Lithium & Alkaline batteries to Land are unlikely in <b>[Normal Operations]</b> – hard standing surfaces will mitigate risk. Waste batteries are stored in sealed drums pending collection.	Regular checks of stored materials by responsible manager.  Regular collection of Wastes.  Emergency procedures for Lithium batteries.  UK/T1/9.0.1/S Emergency Preparedness and Response	1	1	1	N
<b>TO WATER -</b>	Risk of Emission of pollutants to the River Tame is very low - site is over 400m away from the nearest river point.  Activities undertaken on hard standing surface. Closed drainage interceptors on site to mitigate risk.	Regular maintenance of drainage and interceptors.  Regular site checks by responsible managers.  Emergency Spill Kits and Training facilitated.	1	1	1	N

	<p>Mercury – Risk of Mercury pollution from <b>[Normal operations]</b> is highly unlikely, mechanical separation of meter component containing the Mercury switch undertaken within facility on a hard-standing surface. Location of machines is a significant distance away from the site drainage system.</p> <p>Mercury containment within meter component and tilt switch is robust and highly unlikely to be compromised. No pathway to pollute controlled waters exist.</p>	<p>UK/T1/9.0.1/S Emergency Preparedness and Response</p>					
	<p><b>[Abnormal / Emergency Occurrences]</b> – Should Mercury be released only minor volumes Approx 1g would be recognised – Location of segregation activity mitigates pathway to controlled waters.</p> <p>Fire Water Contaminate Run Off <b>[Abnormal / Emergency Occurrences]</b> - closed drainage system and interceptors on site to mitigate risk. Spill kits on site to block any contaminate run-off from entering the drains.</p>	<p>Emergency Spill Kits and Training facilitated.</p> <p>UK/T1/9.0.1/S Emergency Preparedness and Response.</p> <p>Site Emergency Response Plan procedure.</p> <p>Regular maintenance of drainage and interceptors.</p>	1	3	3	N	
	<p>Fuel Spillage from delivery / collection in <b>[Normal operations]</b> is unlikely.</p> <p>Closed drainage system and interceptors on site to mitigate risk.</p>	<p>Regular maintenance of drainage and interceptors.</p> <p>Deliveries / Collections overseen by nominated site representative</p> <p>Spill Kits in place – and maintained as necessary</p> <p>UK/T1/9.0.1/S Emergency Preparedness and Response.</p>	2	2	4	N	
	<p><b>[Abnormal /Emergency Occurrences ]</b> - Escape / rupture of fuel tanks from delivery / collection unlikely.</p> <p>Spill Kits strategically located – Closed drainage system and interceptors on site to mitigate risk.</p>	<p>Deliveries / Collections overseen by nominated site representative</p> <p>Emergency Spill Kits and Training facilitated.</p>	2	3	6	N	

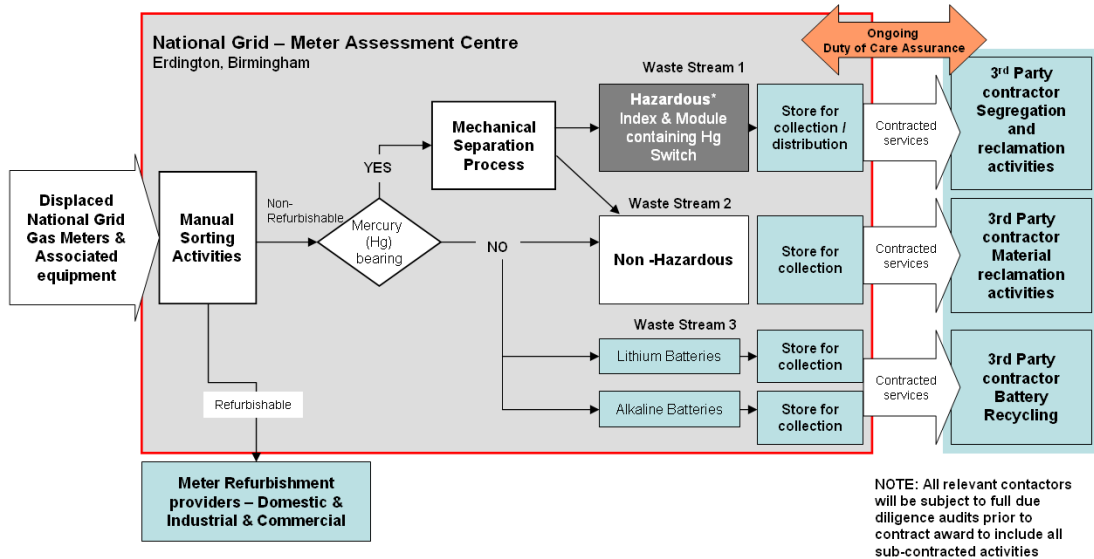
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		UK/T1/9.0.1/S Emergency Preparedness and Response.				
	<p><b>[Abnormal / Emergency Occurrence] –</b></p> <p>Site is in Flood Zone 2 - Risk is between a 1 in 100 and 1 in 1000 annual probability of river flooding (i.e. 1% – 0.1% in any year).</p> <p>Hazardous substances – Mercury is contained within the Meter, within the Index and encased in steel.</p> <p>Waste batteries are stored in watertight UN approved drums - Risk of escape in emergency flood conditions is very unlikely.</p>	<p>Flood Risk Assessment undertaken</p> <p>NGUK/PM/SHE/209 Use of Hazardous Substance</p> <p>UK/T1/9.0.1/S Emergency Preparedness and Response.</p>	<b>1</b>	<b>3</b>	<b>3</b>	<b>N</b>
	<p>Run-Off from Accrued wastes in <b>[Normal Operations]</b>- minimal risk of pollution to controlled waters. Site drainage with interceptor on site.</p> <p>Site is over 400m away from the nearest river point.</p>	<p>Regular collection of waste fractions by third parties.</p> <p>Regular inspection of waste area by responsible manager.</p>	<b>2</b>	<b>1</b>	<b>2</b>	<b>N</b>

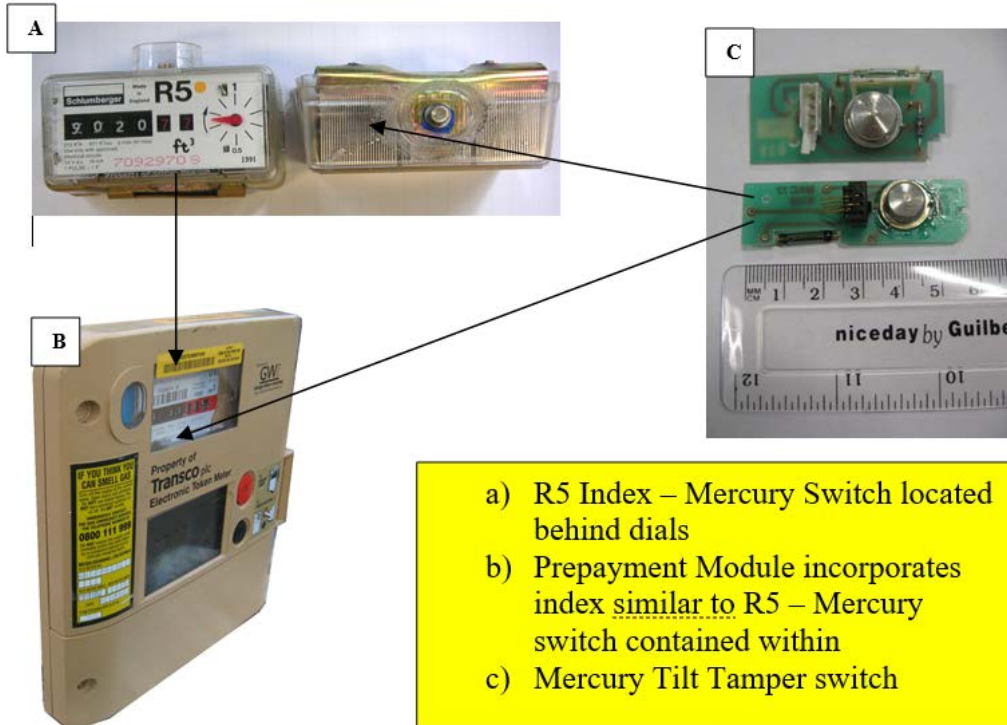
APPENDIX I – NGPR01

**NGPR01 - National Grid -Segregation Process**



Waste Stream 1 (*Hazardous)	Waste Stream 2 (Non Hazardous)	Waste Stream 3 (Non Hazardous)
Mixed Plastics Mixed Metals *Mercury Tilt Switches Printed Circuit Boards Glass	Ferrous Metals Non Ferrous Metals Mixed Alloys Plastics Glass	Lithium Thionyl Chloride Alkaline Battery Packs

**Resultant Hazardous Wastes - Waste Stream 1**





**APPENDIX II – Extract from NGUK/PM/SHE/211 Environmental Aspects****2.1.5 Evaluation of Significance**

<b>Quantity (Normal Operation)</b>	<b>Likelihood (from Abnormal Occurrences)</b>	<b>Score</b>
No Attributable Aspect	Very unlikely Occurrence	1
Minimal Quantity	Unlikely Occurrence	2
Moderate Quantity	Possible Occurrence	3
Large Quantity	Likely Occurrence	4
Major Quantity	Virtually Certain	5

For all aspects, a score between 1 and 5 shall be assigned for the severity of impact.

<b>Severity of Impact</b>	<b>Score</b>
<b>Minimal consequence, e.g.</b> No noticeable effect upon the environment Very minor incident which is easily contained Not likely to cause a local or site nuisance issue Does not contribute to a known global pollution problem	<b>1</b>
<b>Limited consequence, e.g.</b> Limited effect upon the environment Minor incident which is contained Unlikely to give rise to on or off site nuisance issues Does not contribute to a known global pollution problem	<b>2</b>
<b>Moderate consequence, e.g.</b> Known effect upon the environment Medium scale incident Could under certain conditions cause an on or off site nuisance issue Does not contribute to a known global pollution problem	<b>3</b>
<b>High consequence, e.g.</b> Noticeable effect upon the environment Large scale incident involving external regulators Causing a localised nuisance issue both on and off site Contribution to a known global environmental problem	<b>4</b>
<b>Major consequence, e.g.</b> Highly noticeable effect upon the environment Large scale incident with media reporting Causing a widespread nuisance issue both on and off site Major contribution to a known global environmental problem	<b>5</b>

These two scores shall be multiplied together to give the inherent impact score (potential scores between 1 and 25).

Inherent Impact = (Quantity or Likelihood) x Severity

Based on the inherent impact assessment, any aspects scoring 9 or above will be deemed to be significant. In addition, if environmental legislation (or other requirements) apply to the aspect, then it shall be managed regardless of the score.

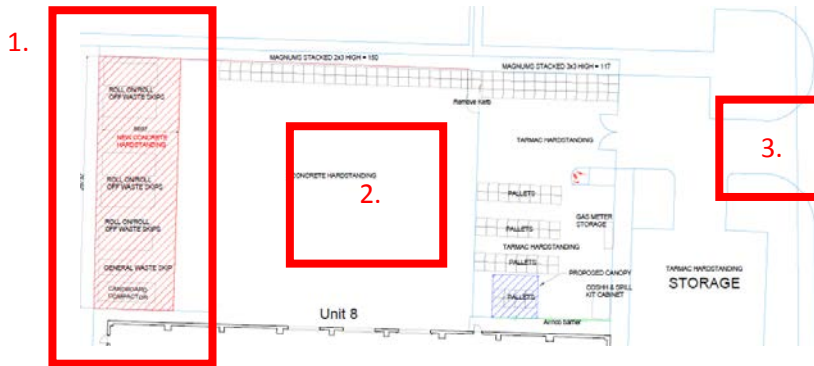
**APPENDIX III**

**Meter Assessment & Recycling Centre – MARC**

1. Waste Area – Accrual of Wastes Pending Collection / Delivery
2. Vehicle Loading & unloading area.
3. Access / Egress to Meter Assessment & Recycling Centre
4. Sorting Area – Meter Assessment – Covered Area
5. Battery Removal - Enclosed Area – Ground floor
6. Mechanical Separation of Hazardous from Non-Hazardous meter components – Enclosed area – ground floor
7. Industrial & Commercial dismantling process – Enclosed area Ground floor
8. Regulator Processing - Enclosed Area – Ground floor

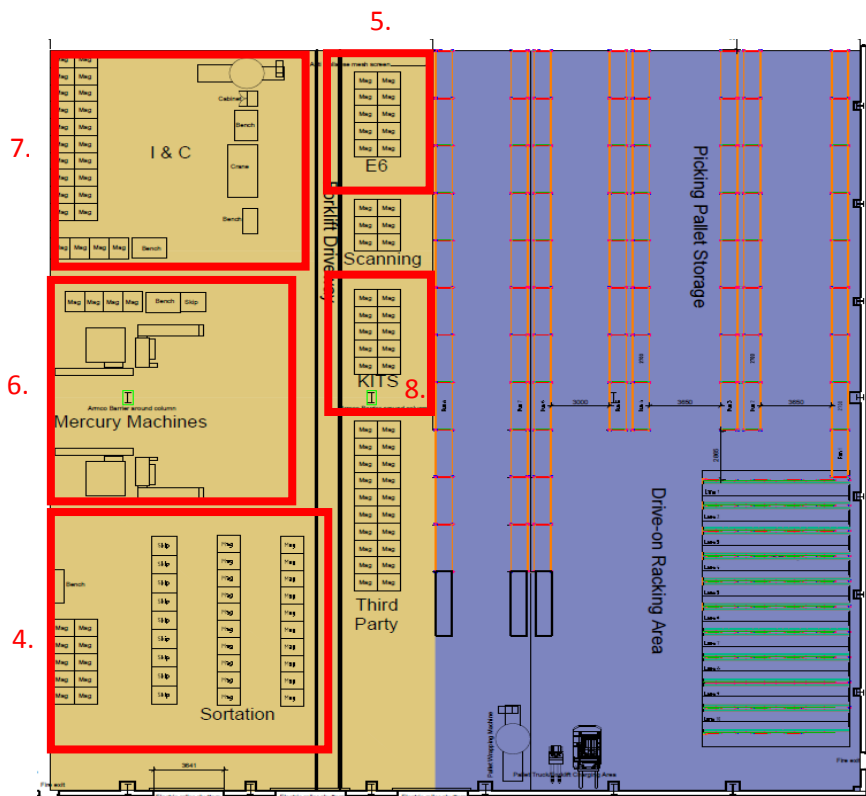
An upstairs level away from the operation will accommodate office spaces, meeting rooms and welfare facilities – No significant impacts identified.

**Outside:**



**Inside:**

(Note: Area marked in blue is National Grid’s Warehouse space which is separate to the MARC operation)



**Meter Assessment & Recycling Centre – Receptors**

**Receptors:**

1. River Tame

