

**The Greater London Authority**

**Statement of Policy – March 2016<sup>1</sup>**

**Exemptions to and retrofit procedures for the Non Road Mobile Machinery (NRMM)  
Low Emission Zone**

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**This is a live document and will be updated to reflect changes in the exemption policy.**

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<sup>1</sup> This document supersedes the version published on 28 August 2015 on [www.nrmm.london](http://www.nrmm.london).

## Introduction

In summer 2015<sup>2</sup>, the Greater London Authority (GLA) consulted on an exemptions policy to the new Non Road Mobile Machinery (NRMM) Low Emission Zone, which applies to all construction sites in the Central Activities Zone (ie central London) and sites building more than ten homes or larger than 1,000 square feet in Greater London.

The GLA received twenty-seven responses to the consultation<sup>3</sup> with a number of common themes, questions and suggestions. The GLA submitted a response to the consultation, which has since had minor amendments to be consistent with this policy<sup>4</sup>.

This document outlines the GLA's exemptions and retrofit policy, which has been refined since its original publication on [www.nrmm.london](http://www.nrmm.london) in response to stakeholder enquiries and following further engagement with industry and the NRMM policy committee.

## NRMM policy committee

Greater London Authority  
Construction Plant-hire Association  
The Society of Motor Manufacturers and Traders Limited  
Energy Saving Trust  
Transport for London  
Crossrail Ltd  
HS2 Ltd  
Environmental Industries Commission  
AMEC Foster Wheeler  
Kings College London  
Construction Equipment Association  
Association of Manufacturers of Power Generating Systems

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<sup>2</sup> 22 May 2015 to 3 July 2015

<sup>3</sup> See [https://nrmm.london/sites/default/files/upload-docs/NRMM%20Consultation%20Responses\\_final.pdf](https://nrmm.london/sites/default/files/upload-docs/NRMM%20Consultation%20Responses_final.pdf)

<sup>4</sup> Also available on [www.london.gov.uk](http://www.london.gov.uk).

# **Exemption and retrofit policy (March 2016)**

## **1.1 Exemption and retrofit policy rationale**

The NRMM 'EU stages' are the basis for the NRMM Low Emission Zone emission requirements. Unlike on highway applications, due to the broad range of non-road engine power and applications, the latest emission level varies according to the engine category. These emission levels are deemed appropriate for the given power and application of the engine. This has led to particular classes of NRMM plant on the market not being available at the EU stage stated in the Supplementary Planning Guidance (SPG), or in a volume insufficient to meet demand in London. Furthermore, options for re-engining or retrofitting NRMM plant to meet the latest emission stage are often limited owing to safety reasons or cost.

It is therefore necessary to outline a method of assessment for retrofit viability and exemption eligibility that secures emission savings without restricting construction activity and growth in the capital. For example, Crossrail Ltd successfully introduced a system of derogations for NRMM plant whilst achieving very high levels of compliance with the latest EU stage.

The GLA will review this exemption policy by summer 2017 to account for any changes in availability and demand for construction equipment and retrofit technologies. Subsequent reviews will then be undertaken on an annual basis with a 12 month lead-in time prior to any changes taking effect.

It is important to note that it remains a condition of the Control of Dust and Emissions from Construction and Demolition Supplementary Planning Guidance (SPG) that all NRMM plant is inputted on the NRMM register regardless of whether an exemption is being sought and/or has been granted.

## **1.2 Role of the NRMM policy committee**

Following the adoption of the SPG by the Mayor, an NRMM policy committee was formed with representatives from TfL, the construction industry, manufacturers, equipment hire and retrofit companies.

The committee provides advice to the GLA on the specific needs of stakeholders, the current and future availability of NRMM plant and alternative technical options for compliance (eg retrofit). Terms of references for the NRMM policy committee are included in Appendix A.

## **1.3 Updates to this policy since first publication**

In collaboration with the NRMM policy committee, this policy statement has been refined since it was first published in August 2015 to respond to a number of queries regarding ambiguity of terminology and the process whereby exemptions interface with the GLA's stance on the use of retrofit technology.

As part of this update, Telescopic handlers are no longer included under block exemptions. Evidence from Crossrail has shown a sufficient quantity of compliant equipment in the market to justify granting exemptions on a case-by-case basis only. An exemption for this type of NRMM plant could still be given under the ‘viability’ category, where applicable (for example for those machines with small power outputs where retrofit is not possible). Similarly, hydraulic power packs will be considered on a case-by-case basis under the ‘viability’ exemption.

## 1.4 Summary of exemptions

Table 1 below provides a summary of exemption categories following consultation in summer 2015 and subsequent discussions with the NRMM policy committee.

**Table 1: Exemption categories**

<b>Exemption category</b>	<b>Description</b>	<b>Exemption period</b>
<b>Block</b>	The type of NRMM plant is not currently manufactured at the EU stage stated in the SPG or there is an insufficient quantity of compliant equipment in the UK supply chain and retrofit is unviable.	Until 1 September 2018
<b>Viability</b>	The NRMM plant is not currently manufactured to meet the EU stage as stated in the SPG or there is an insufficient quantity of compliant plant in the UK supply chain for the task, however, it meets the next best available EU stage <sup>5</sup> and retrofit is unviable, following robust consideration.	12 months from date of approval
<b>Short-term</b>	The NRMM plant is on site for a period of no greater than 30 days to account for a range of potential circumstances where equipment is urgently required or for a very short period.	30 calendar days from date of registration.

## 1.5 Block exemptions

The GLA, in conjunction with the NRMM policy committee, has identified a limited number of ‘types’ of NRMM plant that should be granted a minimum two year block exemption from the date that the SPG came into effect. This is because this equipment is not currently manufactured at the EU stage stated in the SPG or there is an insufficient quantity of compliant equipment in the UK supply chain and retrofit is widely considered unviable.

Block exemptions are outlined in Table 2 below and will apply until 1 September 2018. Further consideration of retrofit is not necessary for NRMM plant covered by a block exemption. However, it is encouraged and the GLA has committed to work with operators whom are willing to achieve ‘best in class’ where further emission reductions can be achieved using retrofit.

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<sup>5</sup> For example, if it is not manufactured to meet Stage IIIB then it must meet Stage IIIA as a minimum.

**Table 2: Block exemptions**

NRMM type	Level of exemption	Rationale
Truck mounted cranes	Exempt from Stage IIIB PM and NO <sub>x</sub> requirement	Models equipped with Stage IIIB engines are not available in large numbers in the UK supply chain and European Federation of Materials Handling has advised against retrofit on mobile cranes.
Constant speed engines (eg generators)	Exempt from Stage IIIB PM and NO <sub>x</sub> requirement	Constant speed engines are not type approved to meet a Stage IIIB or IV standard and discussions are currently underway to bring in a Stage V standard from sometime around 2020.  Whilst there are retrofit solutions that can reduce PM emissions from Stage IIIA generators, more work is required to test whether this technology can be installed without adversely affecting NO <sub>2</sub> emissions and / or equipment uptime. Further development of suitable NO <sub>x</sub> retrofit solutions is also required.

The list of block exemptions remains under review and the GLA recognises there may be instances where a certain type of NRMM plant is consistently granted a viability exemption, which would render it more appropriate to be given a block exemption. This information will be considered as part of the review process using evidence from the NRMM register. Furthermore, the NRMM plant market is very diverse and it is possible that instances will occur whereby a particular type of equipment is not yet accounted for under this policy and these will need to be addressed by the NRMM policy committee on a case-by-case basis.

For constant speed engines, it is also understood there may be instances where the emission limits for Stage IIIB or Stage IV are met despite the EU type approval being Stage IIIA. This should be correctly inputted in the NRMM register.

### **1.6 Viability exemption (consideration of retrofit solutions)**

In conjunction with the NRMM policy committee, the GLA has been working with industry to identify suitable retrofit solutions so that all construction equipment in London meets the highest possible emissions standard. The GLA anticipates that a retrofit solution could be installed on the majority of NRMM plant. However, a 'Viability' exemption will be given in those instances where retrofit is demonstrated to be unviable.

In general, operators of NRMM plant must check whether the equipment is manufactured to meet the PM and NO<sub>x</sub> requirement of the relevant EU stage and if this is not the case, they must robustly consider whether retrofit solutions are available, including a provision of a quote or similar evidence where applicable. This assessment should consider whether it can be installed safely meeting appropriate equipment regulations (ie Provision and Use of Work Equipment Regulations) and it is effective at reducing emissions to ensure it meets the relevant

EU stage in so far as is practicable. This is with the objective of mitigating both PM and NO<sub>x</sub> emissions.

Where both a NO<sub>x</sub> and PM reduction is required to meet the EU stage stated in the SPG, a NO<sub>x</sub> and PM retrofit must be robustly considered (see Table 3 below for clarification on what pollution reduction is required according to EU stage).

**Table 3: Outline of EU stage requirements and pollution reduction sought**

Power Band (kW)	Stage II	Stage IIIA	Stage IIIB	Stage IV	Equipment vs Standard		
	Power Band	Power Band	Power Band	Power Band	Stage II Equipment for Stage IIIA Zone	Stage IIIA Equipment for Stage IIIB Zone	Stage IIIB Equipment for Stage IV Zone
37≤kW≤56	G	J	P	-	NO <sub>x</sub>	PM	N/A*
56≤kW≤75	G	J	N <sup>#</sup>	R <sup>#</sup>	NO <sub>x</sub>	NO <sub>x</sub> /PM**	NO <sub>x</sub> **
75≤kW≤130	F	I	M <sup>#</sup>	R <sup>#</sup>	NO <sub>x</sub>	NO <sub>x</sub> /PM**	NO <sub>x</sub> **
130≤kW≤560	E	H	L <sup>#</sup>	Q <sup>#</sup>	NO <sub>x</sub>	NO <sub>x</sub> /PM**	NO <sub>x</sub> **

# Variable speed engines only

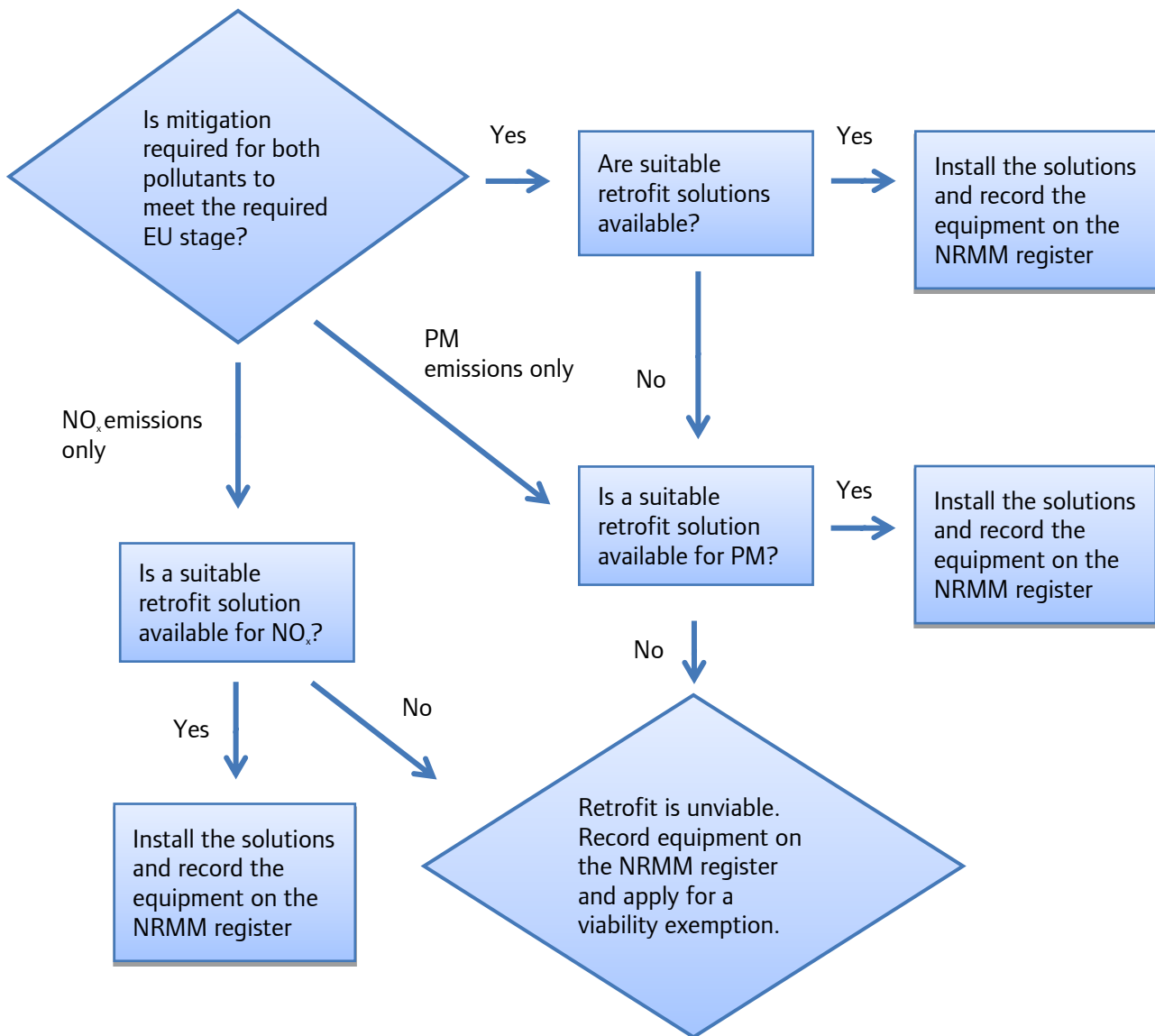
\* See Table 1: Exemption Criteria

\*\* See Table 1: Exemption Criteria, and Table 2: Block Exemptions (Constant Speed Engines)

If a NO<sub>x</sub> retrofit is unviable, then a PM retrofit device shall still be considered. This is in recognition that PM abatement technology (eg DPFs) is widely available and shown to be effective. A process chart for consideration of retrofit solutions can be found below in Figure 1.

If a Viability exemption is granted, it is not necessary to provide ‘evidence of robust consideration’ each time that piece of NRMM plant is recorded on the NRMM register for a new site. However, once the exemption period expires, a new exemption request will need to be sent to the GLA to account for any changes in the availability and demand for construction equipment and retrofit technologies.

**Figure 1: Process chart for consideration of retrofit solutions for viability exemption**



### 1.7 Register of retrofit solutions and suppliers

To ensure that robust and high quality retrofit technologies are used, only retrofit systems produced by manufacturers registered with the Energy Saving Trust (EST) will be eligible for consideration. The EST register that lists emission reduction systems for NRMM can be found at [http://www.energysavingtrust.org.uk/domestic/products?field\\_product\\_category%5B0%5D=4812](http://www.energysavingtrust.org.uk/domestic/products?field_product_category%5B0%5D=4812).

The EST register is a certification scheme that ensures retrofit solutions have demonstrated required reductions in pollutants and that criteria in the areas of quality management, warranty and appropriate insurance provision have been met in respect of the supplier. When a company has demonstrated compliance with the requirements of the scheme, it is eligible to use the EST Endorsed Product mark on its product and marketing literature. More information can be found at <http://www.energysavingtrust.org.uk/businesses/non-road-mobile-machinery-certification>.

## **1.8 Short-term exemption**

The short-term exemption recognises a range of potential circumstances, including emergencies, where equipment is urgently required and seeks to balance the benefits of the scheme without imposing disproportionate costs, particularly on small operators who are using a piece of equipment for a short period of time.

It is acknowledged, however, there is a risk that developers and construction equipment owners may seek to avoid the requirements of the NRMM Low Emission Zone by moving equipment from site to site always remaining under the 30 calendar day threshold. However, on balance, it is felt the inconvenience this would cause to developers would moderate it happening in practice. It is understood Crossrail Ltd successfully adopted a similar approach and this has not been a major issue.

Nevertheless, to help avoid an operator trying to move a piece of equipment on and off the same site, once the 30 calendar day period has expired it cannot be renewed simply by moving a piece of equipment from one site to another and then back again. The NRMM register provides a mechanism for checking if such a piece of non-compliant equipment is returned to a site after its 30 day exemption period has expired.

This is not an automatic process and exemption request must be sent to the GLA as soon as reasonably practicable. If, following a review of the evidence provided, the GLA decides a short-term exemption is not justified, the operator will be granted a five working day grace period to remove the equipment from the site (see section 1.9).

## **1.9 Applying for an exemption**

Applications for an exemption must be submitted to the GLA via the NRMM register. This is an automated process once a piece of equipment is registered that does not meet the correct emission standard for that zone (ie Central Activities Zone, Canary Wharf or Greater London). The exemption form uses the details already entered in the register (site and contact details, NRMM details etc.) with a free-form field for the specific exemption request, which is then sent to the GLA. We welcome feedback on how this process works and suggested improvements.

Exemption requests will be reviewed by the GLA, in keeping with the principles adopted in this policy statement, within 10 working days. The NRMM Committee will provide advice and support as required. The GLA's decision is final. If an application is rejected then a grace period of five working days will apply, from date of notification, whereby the NRMM plant must then be removed from the site.

If an application is approved then the NRMM plant is exempt as per the period outlined in Table 1 above.



# Appendix A - NRMM policy committee terms of reference

## Foreword

The GLA recently published the Control of Dust and Emissions from Construction and Demolition Supplementary Planning Guidance (SPG), which includes the Low Emission Zone (LEZ) for Non Road Mobile Machinery (NRMM) used at construction sites, being introduced from 1 September 2015.

A version is available online at

<https://www.london.gov.uk/file/18750/download?token=zV3ZKTpP>.

The GLA would like to prepare the industry in advance of the policy. In that vein, the GLA's Air Quality Unit has convened an NRMM Committee of industry experts based on their expert knowledge of this sector to discuss possible exemptions.

## Committee Activity Table

Item	Description																						
Duration	On-going																						
Frequency	Bi-annual																						
Purpose	<ul style="list-style-type: none"> <li>▪ To advise on Non Road Mobile Machinery (NRMM) that may not be able to meet the NRMM LEZ either due to unavailability or technical specifications, and should therefore be exempt.</li> <li>▪ In future, to review existing exemptions to make sure they are still relevant.</li> </ul>																						
GLA Roles and Responsibilities	<ul style="list-style-type: none"> <li>▪ Chair</li> <li>▪ Secretariat               <ul style="list-style-type: none"> <li>- Committee coordination (meetings)</li> <li>- Minutes</li> <li>- Recorded actions</li> <li>- Recommendations</li> <li>- Provide draft plans and information to the committee</li> </ul> </li> <li>▪ Committee minutes will be made publicly available</li> </ul>																						
Committee Roles and Responsibilities	To maintain confidentiality; to comment and advise on possible exemptions; to advise on prior to the formal consultation. The committee will operate in a purely advisory capacity. It is not a decision-making body. All exemptions discussed will be made separately and independently by the GLA.																						
Membership	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Member</th> <th style="text-align: left;"># Representatives</th> </tr> </thead> <tbody> <tr> <td>GLA</td> <td>2</td> </tr> <tr> <td>Construction Plant-hire Association</td> <td>2</td> </tr> <tr> <td>Energy Saving Trust</td> <td>2</td> </tr> <tr> <td>Crossrail</td> <td>1</td> </tr> <tr> <td>Construction Equipment Association (CEA)</td> <td>1</td> </tr> <tr> <td>Environmental Industries Commission (EIC)</td> <td>1 + 1 industry</td> </tr> <tr> <td>Society of Motor Manufacturers &amp; Traders Off-highway Engines &amp; Equipment Group (SMMT-OHEEG)</td> <td>1</td> </tr> <tr> <td>Association of Manufacturers of Power generating Systems (AMPS)</td> <td>1</td> </tr> <tr> <td>Kings College London</td> <td>1</td> </tr> <tr> <td>Transport for London (TfL)</td> <td>1</td> </tr> </tbody> </table>	Member	# Representatives	GLA	2	Construction Plant-hire Association	2	Energy Saving Trust	2	Crossrail	1	Construction Equipment Association (CEA)	1	Environmental Industries Commission (EIC)	1 + 1 industry	Society of Motor Manufacturers & Traders Off-highway Engines & Equipment Group (SMMT-OHEEG)	1	Association of Manufacturers of Power generating Systems (AMPS)	1	Kings College London	1	Transport for London (TfL)	1
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