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### Environmental Management

### Environmental Baseline/ Status Quo Report

For: Transnet Freight Rail

Project Name: **Replacement of overhead traction masts, foundations and Steelwork between Estcourt and Ladysmith.**

Project Number: 3426331

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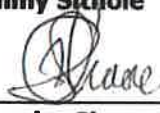
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## TRANSNET GROUP CAPITAL

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### Table of Contents

<b>1. INTRODUCTION AND BACKGROUND .....</b>	<b>4</b>
1.1 Developmental context.....	4
<b>2. PURPOSE OF THIS REPORT.....</b>	<b>5</b>
<b>3. PROJECT SCOPE.....</b>	<b>5</b>
<b>4. SITE SCOPE.....</b>	<b>6</b>
<b>5. BASELINE INSPECTION CRITERIA.....</b>	<b>6</b>
5.1 Flora.....	7
5.2 Fauna.....	8
5.3 Water.....	8
5.4 Heritage Resources.....	10
5.5 Social Impacts.....	10
5.6 Regional Climate.....	10
<b>6. Environmental authorisation and permit requirements.....</b>	<b>11</b>
<b>7. Environmental Management Plans.....</b>	<b>11</b>
<b>8. Social Risk.....</b>	<b>12</b>
8.1 Stakeholder Engagement Plan.....	12
<b>9. Conclusion.....</b>	<b>13</b>
<b>Annexure A.....</b>	<b>14</b>
<b>Annexure B.....</b>	<b>16</b>

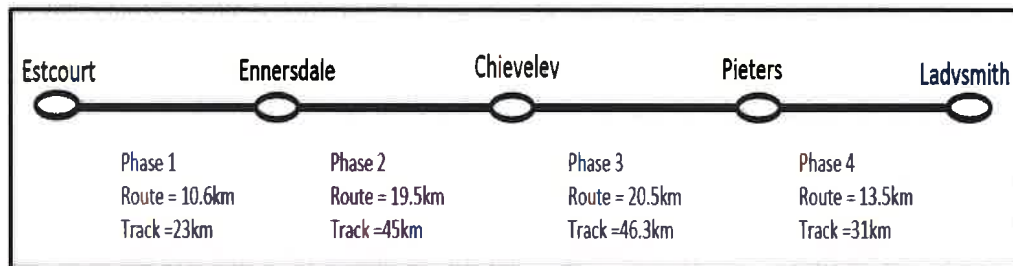


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## 1. INTRODUCTION AND BACKGROUND

### 1.1 Developmental context

The section between Estcourt and Ladysmith is part of NATCOR and consists of 64 km of electrified double line track (146 km electrified track inclusive of loops and yard lines). The line is electrified with steel masts supported by bolt group foundation being used to suspend the High Voltage conductors. The lifecycle of Overhead Track Equipment steelwork and foundations for inland areas is over 60 years with regular routine maintenance interventions.



**Figure 1: A Schematic of Phases 1 - 4 for the Estcourt to Ladysmith line**

This project emanated due to safety risks as a result of corroded overhead track equipment (OHTE) support structures. The structural integrity of mast poles and their associated concrete foundations posed a serious safety risk to electrical maintenance staff that has to lean ladders against masts for maintenance work. The structural condition and design precludes any further electricity through additional conductors. The safety related incidents have been reported as a result of masts leaning over.

The steel masts, booms, knee braces and fittings supporting the overhead wires are corroded to such an extent that their replacement is necessary to ensure their safe functionality. The foundations have cracked because of rusted foundation bolts and the masts and booms are in such a condition that ladders used by maintenance staff (through routine maintenance) often causes them to fail. This leads to an unsafe environment for OHTE maintenance and often maintenance cannot be executed as planned due to unsafe conditions, thus leading to unmaintained OHTE assets.

In order to support Transnet Freight Rail's vision of satisfying its customers by providing a reliable service and maintaining focus on safety, the steelwork must be replaced. This investment supports the running of a reliable and scheduled railway safely.



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### 2. PURPOSE OF THIS REPORT

The purpose of this report is to identify and characterize the existing status quo of the proposed development site, provide input on the requirements to comply with environmental legislation and make recommendations on initiatives or controls that will ensure environmental protection.

### 3. PROJECT SCOPE

The replacement of Overhead Traction Masts, Foundation and Steelwork work will be between Estcourt and Ladysmith stations. This is from mast location 63/17 (section between Estcourt station and Ennersdale station) to mast location 183/30 Ladysmith location. A Table below shows the full scope of the entire Estcourt to Ladysmith Project, with the progress to date.

Original		Revised			
Scope of Work	Description	Phases	Description	Progress	Planned / Actual Completion
Replacement of Overhead Traction Masts, Foundations and Steelwork between Estcourt and Ladysmith	Replacement of all mast foundations, poles, small steel work (including cantilevers, steady arms, knee braces, bonding, H-frames), copper catenary with free issued Deer wire, replace steel double booms, insulators and tensioning devices	<b>Phase-1</b> Estcourt (E) to Ennersdale (I)	Replacement of all mast foundations, poles, small steel work (including cantilevers, steady arms, knee braces, bonding, H-frames), copper catenary with free issued Deer wire, replace steel double booms, insulators and tensioning devices	100%	February 2016
		<b>Phase-2</b> Ennersdale (E) to Chieveley (E)		0.28%	October 2023
		<b>Phase-3</b> Chieveley (I) to Pieters (E)		100%	April 2019
		<b>Phase-4</b> Pieters (I) to Ladysmith (I)		0.19%	August 2025

**Table 1: Scope of work for the replacement of overhead traction masts, foundations and steelwork between Estcourt and Ladysmith.**



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### 4. SITE SCOPE

The site scope includes the entire area where construction activities will take place.



**Figure 1: Nature of site before construction**

This inspection was carried out before any activities started on site and a close-out inspection will be carried out after all the construction activities were completed on site. The inspection provides an overview of how the site looked before any work was done and it allows the contractor to rehabilitate the site back to the same or better condition. The rehabilitation conditions are provided for in the National Environmental Management Act (NEMA) 107 of 1998 section 28, the TGC Construction Environmental Management Plan (CEMP) and the TGC Standard Environmental Specifications (SES) document.

### 5. BASELINE INSPECTION CRITERIA

The baseline inspection were conducted for the entire phase 2 (Ennersdale to Chieveley) and phase 4 (Pieters to Ladysmith). The inspections were carried out against the flora, fauna, water, regional climate, heritage resources and social impacts. The inspection criteria was derived from the Environmental legislation outline in section 6 of this report. The sections below will focus on providing detail on the findings of each of the environmental aspects above as they relate to the proposed development.

A first site inspection was undertaken on the 15<sup>th</sup> August 2018 and the second inspection was undertaken on the 8<sup>th</sup> October 2019 to assist in the description of the environment that may



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be directly or indirectly affected by the proposed project. Site condition was assessed and the following observations and recommendations were made:

### 5.1 Flora

The area is situated along the existing railway lines and no plants of significance were identified during the inspection. The area where construction will take place is dominated with thatch grass (*Hyparrhenia hirta*) (figure 2).



**Figure 2: Dominant *Hyparrhenia hirta* along the proposed line upgrades**



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On the mast pole no 49/22 between Ennersdale and Frere stations there was an invasive Aloe plant species in the name of Prickly Pear "*Opuntia*". This plant can be removed as it not endogenous plant.



**Figure 3: Prickly pear (*Opuntia*) seen between along the proposed line upgrades**

### 5.2 Fauna

No animal or bird species of significance were identified during the assessment. The only potential impact will be on domestic animals because of the site's close proximity to farms and residential areas. Care should be taken to avoid the presence of any domesticated animals on site.

### 5.3 Water

The replacement of overhead traction masts, foundations and steelwork between Estcourt and Ladysmith include the masts supported by bolt group foundations and some of the masts at the water and road bridges are to be replaced as seen on figure 4 and 6 below, as such the proposed project site will be demarcated to prevent and avoid causing unnecessary water pollution on the stream below. Excavations will not be done on the bridge, instead the existing foundation will be utilised. Figure 6 & 7 shows a close proximity of water bodies near the railway line where the work will be taking place, and workers should be very careful that they





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don't cause pollution on the water. The line is electrified with steel masts supported by bolt group foundation being used to suspend the High Voltage conductors. The lifecycle of Overhead Track Equipment steelwork and foundations for inland areas is 50 years with regular routine maintenance interventions.



**Figure 4: Example of the bridges where the OHTE work will be done**



**Figure 5: Watercourse within close proximity**



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**Figure 6: Stagnant water observed parallel to proposed project**

### **5.4 Heritage Resources**

No heritage resources were identified during the site assessment. However care shall be taken should any heritage artefacts are discovered on site during execution and work will cease immediately. It should be noted that the existing masts supported by bolt group foundation being used to suspend the High Voltage conductors are maintained on 50 year routine and there will currently be replaced on a like for like equipment.

### **5.5 Social Impacts**

It was observed during the site visit that some areas of the project are located in close proximity to the residential area, therefore measures must be taken to ensure that the community is not negatively affected by the project activities. In this regard the site must be fenced off to minimise access, and the project must also be provided with a Public Complaints Register on site; that provides an opportunity for the public should they want to report and record any complaints or impacts.

### **5.6 Regional Climate**

Estcourt normally receives about 589mm of rain per year, with most rainfall occurring mainly during mid-summer. It receives the lowest rainfall (1mm) in June and the highest (107mm) in January. The region is the coldest during June when the mercury drops to 1.7°C on average during the night.



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Ladysmith normally receives about 639mm of rain per year, with most rainfall occurring mainly during mid-summer. It receives the lowest rainfall (1mm) in June and the highest (122mm) in January. The region is the coldest during July when the mercury drops to 3.1°C on average during the night.

### **6. Environmental authorisation and permit requirements**

The following pieces of legislation were perused to determine the requirements:

#### **National Environmental Management Act (107 of 1998):**

Environmental Impact Regulations of 2011 (Listing Notice 1, 2 and 3) as amended;

#### **National Environmental Management Waste Act (59 of 2008)**

List of Waste Management Activities: GN 921 of 2013 (as amended by GN 633 OF 2015)

#### **National Environmental Management Air Quality Act (39 of 2004)**

List of Activities and associated minimum emission standards identified in terms of section 21 of NEM: AQA (39): GN 893 of 2013

#### **National Water Act (36 of 1998)**

Water uses as defined in section 21

#### **Mineral and Petroleum Resource Development Act (28 of 2002)**

Section 27

#### **National Forest Act (84 of 1998)**

Section 15 & Section 23(2)

#### **National Environmental Management: Biodiversity Act**

List of Critically Endangered;

Endangered; vulnerable and protected species

#### **National Heritage Resources Act (25 of 1999)**

Section 34 and 36

### **7. Environmental Management Plans**

This project does not require any environmental approvals. However TGC's Environment and Sustainability Department has two generic documents namely:

- Construction Environmental Management Plan (ENV-STD-001-Rev04); and
- Standard Environmental Specification (ENV-STD-002-Rev04).

These documents serve as guidelines for the construction of any project describing the roles and responsibilities, as well as standards that the Contractor must adhere to and will be implemented on this project.



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### 8. Social Risk

#### 8.1 Stakeholder Engagement Plan

A Project Stakeholder Register has been developed and consists of different stakeholders and the level of influence each stakeholder has on the project. All stakeholders, internal and external, as well as their requirements have been identified to communicate milestones, and phases of the project that will be undertaken on site, whether underway or successfully completed, handed over and ready for use. The communication tools will be progress meetings, emails, Formal Memo, MDS Headlines, community forums and operational briefs. The main stakeholders for this project Replacement of overhead traction masts, foundations and Steelwork between Estcourt and Ladysmith have been identified and listed in Table 8.1 below:

**Table 8.1 Stakeholder Engagement Register**

Name	Position	Organisation	Contact number	Email address	Frequent
Niven Khoza	Project Manager	TGC	011308 4034	<a href="mailto:Niven.Khoza@transnet.net">Niven.Khoza@transnet.net</a>	Biweekly
Protas Muthwa	Senior Project Manager	TGC	011 308 4097	<a href="mailto:Protas.Muthwa@transnet.net">Protas.Muthwa@transnet.net</a>	Monthly
Zamokuhle Khumalo	Construction Manager	TGC	011 308 1896	<a href="mailto:Zamokuhle.Khumalo@transnet.net">Zamokuhle.Khumalo@transnet.net</a>	Daily
Zamokuhle Khumalo	Site Supervisor	TGC	011 308 1896	<a href="mailto:Zamokuhle.Khumalo@transnet.net">Zamokuhle.Khumalo@transnet.net</a>	Daily
Sinenhlanhla Mofokeng	Health & Safety Practitioner	TGC	031 361 1137	<a href="mailto:Sinenhlanhla.Mofokeng@transnet.net">Sinenhlanhla.Mofokeng@transnet.net</a>	Weekly
Jimmy Sithole	Environmental Officer	TGC	011 308 4629	<a href="mailto:Jimmy.Sithole@transnet.net">Jimmy.Sithole@transnet.net</a>	Weekly
Sthembiso Sangweni	Quality Officer	TGC	0605713458	<a href="mailto:Sthembiso.Sangweni@transnet.net">Sthembiso.Sangweni@transnet.net</a>	Monthly
Sthembiso Masondo	Engineering Technician	TGC	031 361 1824	<a href="mailto:Sthembiso.Masondo@transnet.net">Sthembiso.Masondo@transnet.net</a>	Weekly
Rihangwele Maba	Quantity Surveyor	TGC	011 308 1320	<a href="mailto:Rihangwele.Maba@transnet.net">Rihangwele.Maba@transnet.net</a>	Monthly



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Oupa Makinta	Cost Engineer	TGC	011 308 1266	<a href="mailto:Oupa.Makinta@transnet.net">Oupa.Makinta@transnet.net</a>	Monthly
Kabelo Motsugi	Contract Administrator	TGC	011 308 4279	<a href="mailto:Kabelo.Motsugi@transnet.net">Kabelo.Motsugi@transnet.net</a>	Monthly
Sindiswa Pasi	Document Control	TGC	011 308 4256	<a href="mailto:Sindiswa.Pasi@transnet.net">Sindiswa.Pasi@transnet.net</a>	Weekly
Tshokolo Koalepe	Project Manager	TGC	011 583 0320	<a href="mailto:Tshokolo.Kgoalipe@transnet.net">Tshokolo.Kgoalipe@transnet.net</a>	Bi-weekly
Linda Mathe	Depot Engineer	TFR	036 271 2310	<a href="mailto:Linda.Mathe@transnet.net">Linda.Mathe@transnet.net</a>	Bi-weekly
Bob Corringham	Maintenance Manager	TFR	(036) 271-2036	<a href="mailto:Bob.Corryngham@transnet.net">Bob.Corryngham@transnet.net</a>	Bi-weekly
Deepak Budhram	Programme Director	TFR	011-583-0484	<a href="mailto:Deepak.Budhram@transnet.net">Deepak.Budhram@transnet.net</a>	Monthly
Neil Khuzwayo	General Manager (Water & Sanitation)	Uthukela District Municipality	083- 795-6400 or 036 638 5100	<a href="mailto:Nkhuzwayo@uthukela.gov.za">Nkhuzwayo@uthukela.gov.za</a> .	As and when
Sanele Zikalala	Project Manager	Uthukela District Municipality	082-774-9181	<a href="mailto:SZikalala@thukela.gov.za">SZikalala@thukela.gov.za</a>	As and When
Rob Johnson	Councillor	Ladysmith	250-802-2635	<a href="mailto:rjohnson@ladysmith.ca">rjohnson@ladysmith.ca</a>	As and When

### 9. Conclusion

After thorough investigation, there were no activities applicable to the project that may necessitate the need for Water-use License, Waste, tree removal permits and Environmental Authorisations from the authorities, however the project team will have consultation with KZN heritage authority (AMAFA) to notify them of the works to be undertaken on site regarding Heritage permit. The recommendations from AMAFA will then implemented. Should the recommendation involves the application of a Heritage permit, no works will commence until such permit is obtained.



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**Annexure A**

<b>PERMISSION TYPE</b>	<b>RELEVANT STATUTORY DOCUMENT</b>	<b>DOCUMENT PERUSED</b>	<b>APPLICABLE</b>	<b>NOT APPLICABLE</b>	<b>REQUIRED PROCESS</b>
<b>Environmental Authorisation</b>	EIA Regulations of 2014 (Listing Notice 1,2 & 3) as amended by GN324, GN325 and GN327 of 2017	✓		✓	Basic Assessment/ EIA
	National Environmental Waste Act (59 of 2008) – List of Waste Management Activities: GN 921 of 2013 as amended by GN633 of 2015	✓		✓	Basic Assessment/ EIA
	National Environmental Management Air Quality Act (39 of 2004) – List of Activities: GN 893 of 2013 as amended by GN551 of 2015	✓		✓	Basic Assessment/ EIA
<b>Waste License</b>	National Environmental Waste Act (59 of 2008) – List of Waste Management Activities: GN 921 of 2013 as amended by GN633 of 2015	✓		✓	Basic Assessment/ EIA
<b>Atmospheric Emission license</b>	National Environmental Management Air Quality Act (39 of 2004) – List of Activities: GN 893 of 2013 as amended by GN 551 of 2015	✓		✓	Application for Air emission license as stipulated in Chapter 5 of the Act
<b>Water use License</b>	National Water Act (36 of 1998) – Section 21	✓		✓	Application for Water use License



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<b>PERMISSION TYPE</b>	<b>RELEVANT STATUTORY DOCUMENT</b>	<b>DOCUMENT PERUSED</b>	<b>APPLICABLE</b>	<b>NOT APPLICABLE</b>	<b>REQUIRED PROCESS</b>
<b>Mining Permit</b>	Mineral and Petroleum Resource Development Act (28 of 2002) – Section 39	✓		✓	Application for mining permit in terms of Section 39 of the Act and Regulations 52
<b>Tree Removal Permit</b>	National Forest Act (84 of 1998) – Section 15	✓		✓	Application for license as stipulated in Section 15 of the Act
<b>SAHARA Permit</b>	National Heritage Resources Act (25 of 1999)	✓		✓	Application for permit as stipulated in section 34-36 of the Act
<b>Permit for removal of protected species</b>	National Environmental Management: Biodiversity Act (10 of 2004)	✓		✓	Application in terms of Section 57(1) of the Act



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**Annexure B**

Work Packages/Activities (Description)	EA Requirements Review - All legislation	Activities that may apply to Project	Applicable to Project		Motivation	Process to be followed
			YES	NO		
Replacement of Overhead Traction Masts Foundations and Steelwork between Estcourt and Ladysmith	<p>National Environmental Management Act (107 of 1998):</p> <ul style="list-style-type: none"> <li>Listing Notice 1 (GN 327) as amended by GN 706 of 2018</li> </ul>	<p>11) The development of facilities or infrastructure for the transmission and distribution of electricity-</p> <p>(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts;</p> <p>(ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more, excluding the development of bypass infrastructure is –</p> <p>(a) temporarily required to allow for maintenance</p>			<p>Upgrade will take place in an existing infrastructure. Capacity is less than 33 kilovolts</p>	<p>Not Applicable</p>





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		<p>of existing infrastructure;                  (b) 2 kilometres or shorter in length;                  (c) within an existing transmission line servitude; and                  (d) will be removed within 18 months of the commencement of development.</p>			
		<p>30) Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).                  47) The expansion of the facilities for the transmission and distribution of electricity where the expanded capacity will exceed 275 kilovolts and the development footprint will increase</p>	<b>X</b>	<p>No process or activity triggered in relation to section 53(1) of NEMBA</p>	<p>Not Applicable</p>



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	• <i>Listing Notice 2 (GN 325)</i>	None					
	• <i>Listing Notice 3 (GN 324)</i>	None					
	<b>National Environmental Management Air Quality Act (39 of 2004):</b>						
	<b>List of Activities (GN 893/2013)</b>	None					
	<b>National Environmental Management Waste Act (Act 59 of 2008):</b>						
	• <b>List of Activities (GN 921/2013) as amended by GN R633 of 2015</b>	<b>Category A: Disposal of waste</b> (10) The disposal of general waste to land covering an area of more than 50m <sup>2</sup> but less than 200m <sup>2</sup> and with a total	X				The generated general waste will not be more than 50m <sup>2</sup>



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		capacity not exceeding 25000 tons			
		<b>Category B: Disposal of waste on land</b> (7) The disposal of any quantity of hazardous waste to land	X	All generated hazardous waste will be disposed off at the registered landfill.	
		<b>Category c: Storage of Waste</b> None			
<b>National Water Act (36 of 1998)</b>					
		None			
<b>Section 21</b>					
<b>Mineral and Petroleum Resources Development Act (28 of 2002):</b>					
		<b>Mining Permit</b> Any operation or activity for the purposes of winning any mineral on, in or under the earth, water or any residue deposit, whether by underground or open working or otherwise and includes any	X	No Borrow pit required for this proposed project.	Not Applicable



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		operation or activity in an area less than 1.5 hectare and within 2 years			
<b>National Environmental Management Biodiversity Act (10 of 2004):</b>					
<ul style="list-style-type: none"> <li><b>Section 1 (Restricted Activities) and Section 71 (Restricted activities) Alien and Invasive species list : GN 599 of 2014</b></li> </ul>		(iii) picking parts of, or cutting, chopping off, uprooting, damaging or destroying, any specimen of a listed threatened or protected species;		X	No listed species identified during baseline inspection
	<b>National Heritage Resources Act (25 of 1999):</b>				
<ul style="list-style-type: none"> <li><b>Section 34 and 36</b></li> </ul>		34. (1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.		X	The replacement of overhead traction masts, foundations and Steelwork between Estcourt and Ladysmith will be done on the railway line that is over 60 years.
	<p>KZN Heritage Authority (Amafa) will be conducted and are to recommend the process to be followed.</p>				



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		<p>(3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—</p> <p>(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;</p> <p>(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority;</p>	<p>X</p>	<p>No graves identified on site</p>	
	<p><b>National Forests Act (Act 84 of 1998):</b></p>				



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	• <i>Section 15(1)</i>	None						
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