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water affairs

Department:
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LICENCE IN TERMS OF CHAPTER 4 OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998) (THE ACT)

I, ***Maxwell Sirenya,*** in my capacity as Director-General in the Department of Water Affairs and acting under authority of the powers delegated to me by the Minister of Water and Environmental Affairs, hereby authorize the following water use in respect of this licence.

SIGNED: ......MMSirenya......

DATE: ......23/03/2012......

LICENCE NO.11/U60G/H/1623

FILE NO. 16/2/7/U602/D13/X1

1. Licensee: eThekwini Metropolitan Municipality
Postal Address P. O. Box 1038
DURBAN
4000

2. Water uses

2.1 Section 21(h) of the Act: Disposing in any manner of water containing waste from, or which has been heated in, any industrial or power generation process, subject to the conditions set out in Appendices I and II

3. Properties in respect of which licence is issued

3.1 Portion 6 of Durban Airport Erf 14263, Merewent Erf 2452 & 2455, Portion 152 of Wentworth Erf 99, Portion 1& 3 of Wentworth Erf 71, Portion 25 & 26 of Wentworth Erf 96, Portion 1 of Wentworth Erf 70, Portion 3 of Wentworth Erf 19 and Wentworth

4. Registered owners of the Properties

4.1 eThekwini Metropolitan Municipality

B 1473

5. Licence Period

5.1 This licence is valid for a period of twenty (20) years and it may be reviewed after every five (5) years.

6. Definitions

Any terms, words and expressions as defined in the National Water Act, 1998 (Act 36 of 1998) must bear the same meaning when used in this licence.

"The Regional Head" means the Regional Head: KwaZulu-Natal, Department of Water Affairs, P. O. Box 1018, Durban, 4000.

"Mixing zone" means the sea-water column, within a radius equivalent to twice the maximum depth of water above the diffuser, measured horizontally from any point on the diffuser, where active mixing takes place and marine water quality guidelines need not be met.

"Report" refers to the report entitled "Application for water use licence in terms of Section 21 of the National Water Act (Act 36 of 1998): Southern Wastewater Treatment Works" dated 9 July 2007 for eThekwini Municipality and as compiled by eThekwini Municipality , as well as all other related documentations and communication (emails, letters, verbal, etc) thereto.

7. Description of Project.

This licence authorises eThekwini Metropolitan Municipality to discharge a maximum quantity of 84 000 000 (eighty four million) cubic metres (m^3) per annum of screened water containing waste from Southern Wastewater Treatment Work's into the sea outfall through pipeline, based on an average of 230 000 m^3 per day and a maximum of 326 000 m^3 on any one day;

A maximum quantity of 17 600 000 (seventeen million and six hundred thousand) m^3 per annum of excess treated wastewater for industrial use by means of discharge from Veolia Water Plant to the Stanvac Canal, based on an average of 48 000 m^3 per day and a maximum of 50 000 m^3 on any one day.

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APPENDIX I

General Conditions for All Water Uses

1. This licence is subject to all applicable provisions of the National Water Act, 1998 (Act 36 of 1998).

2. The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.

3. The Licensee must immediately inform the Regional Head of any change of name, address, premises and/or legal status.

4. If the property in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the properties to the Regional Head of the Department within 60 days of the said change taking place.

5. If a water user association is established in the area to manage the resource, membership of the Licensee to this association is compulsory.

6. The Licensee must be responsible for any water use charges or levies imposed by a responsible authority.

7. While effect must be given to the Reserve as determined in terms of the Act, where a desktop determination of the Reserve has been used in issuance of a licence, when a comprehensive determination of the Reserve has finally been made; it must be given effect to.

8. When compulsory licensing is implemented for the water resource in respect of which this licence was issued, the water use authorized in this licence could be subject to appropriate reduction.

9. The licence must not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.

10. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other applicable provisions of the Act, as amended from time to time.

11. The Licensee must conduct an annual internal audit on compliance with the conditions of licence. A report on the audit must be submitted to the Regional Head within one month of the finalisation of the audit.

12. The Licensee must appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. The first audit must be conducted within 3 (three) months of the date this license and a report on the audit must be submitted to the Regional Head within one month of finalisation of the report.

13. Flow metering, recording and integrating devices must be maintained in a sound state of repair and calibrated by a competent person at intervals of not more than two years.

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Calibration certificates must be available for inspection by the Regional Head or his representative upon request.

14. Any incident that causes or may cause water pollution must be reported to the Regional Head or his/her designated representative within 24 hours.

15. The Licensee must inform the Regional Head of all new applicants applying to discharge significant quantities of water containing waste via the sea outfall pipeline.

16. The Department may instruct the Licensee to refuse any discharge into the sea outfall pipeline, if it deems such action necessary for the efficient functioning of the pipeline or for the protection of the marine environment.

17. In the event of the refusal of any discharge into the sea outfall pipeline in terms of this licence, the person being so refused must have no recourse to the Licensee or the Minister or his officials for claims arising from damages suffered from such refusal, nor must the Licensee have recourse to the Minister or his officials for any claims arising from damages that the Licensee may suffer from such refusal.

18. No water containing waste from any person residing outside the jurisdiction of the Licensee must be accepted for discharge into the sea outfall pipeline without prior approval by the Regional Head.

19. No alterations to the diffuser section of the pipeline must be made without prior written approval by the Regional Head.

20. Any agreement entered into between the Licensee and a third party for operation and / or ownership of any part of Southern Wastewater Treatment Works must form an appendix to this Licence.

21. The Licensee must ensure that waste is minimised and cleaner production technology is implemented and must enforce this commitment from the industries that they provide a service to. These companies are to be issued with a trade effluent permit which requires the companies to investigate cleaner production and waste minimisation techniques.

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APPENDIX II

Section 21 (h) of the Act: **Disposing in any manner of water containing waste from, which has been heated in, any industrial or power generation process**

1. Quantities Of Water Containing Waste And Methods Of Discharge

1.1 This licence authorises the disposal of the following quantities of water containing waste:

1.1.1 A maximum quantity of 84 000 000 (eighty four million) cubic metres (m^3) per annum of screened water containing waste by means of discharge via the Southern Wastewater Treatment Work's sea outfall pipeline, based on an average of 230 000 m^3 per day and a maximum of 326 000 m^3 on any one day;

1.1.2 A maximum quantity of 17 600 000 (seventeen million and six hundred thousand) m^3 per annum of excess treated wastewater for industrial use by means of discharge from Veolia Water Plant to the Stanvac Canal, based on an average of 48 000 m^3 per day and a maximum of 50 000 m^3 on any one day; and

1.2 The quantities of water containing waste authorised to be disposed of in terms of this licence may not be exceeded without prior authorisation by the Minister or his delegated nominee.

2. QUALITY OF THE WATER CONTAINING WASTE

2.1 Sea Discharge

2.1.1 The quality of water which contains waste discharged via the sea outfall pipeline must not exceed the following limits as specified in Table 1 below:

Table 1: Quality of waste water to be disposed

Substance/parameter	Limit
pH	5.5 to 9.5
Arsenic (as As)	3.3 mg/l
Cadmium (as Cd)	1.1 mg/l
Chromium (as Cr)	2.2 mg/l
Copper (as Cu)	1.4 mg/l
Mercury (as Hg)	0.05 mg/l
Nickel (as Ni)	6.8 mg/l
Lead (as Pb)	3.2 mg/l
Zinc (as Zn)	6.8 mg/l
Cyanides (as CN)	5.0 mg/l
Sulphides (as S)	20.0 mg/l
DDT and Derivatives	0.5 µg/l
Ammonia	6 mg/l*
Total oils	2.5 mg/l*

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Suspended solids	25 mg/l*

**** relaxed variables***

2.1.2 The Licensee must investigate measures, with a view to implementation, to reduce the amount of oils, suspended solids and ammonia discharged from the pipeline to the marine environment.

2.1.3 A plan with regard to condition 2.1.2 above must be submitted to the Regional Head within one year of the date of issuance of this licence.

2.1.4 Pesticides residues accepted by the Licensee must be disposed of into the sea outfall pipeline at such a rate that the calculated concentrations at the mixing zone must not exceed 0.01 micrograms per litre for each pesticide, taking into account the dilution in the sea outfall pipeline and at the diffusers.

2.1.5 The water containing waste discharged via the sea outfall pipeline must be screened to remove detritus, rags, plastics and floatable materials.

2.1.6 Sewage sludge may be re-introduced into the water containing waste which must be discharged into the sea outfall pipeline.

2.1.7 The water containing waste must be discharged in such a manner and be of such a quality that the sea-water outside the mixing zone of the pipeline must comply with the Water Quality Guidelines for Coastal Marine Waters in accordance with the specific beneficial use areas (Reference: Department of Water Affairs and Forestry, 1996, South African Water Quality Guidelines for Coastal Marine Waters, Volumes 1-4, Second Edition) and as amended from time to time.

2.1.8 The water containing waste discharged must not contain any substance which can give rise to valid complaints from the public or which may have any adverse effects on bathing or other recreational use or the marine life.

2.2 Treated water containing waste discharged from Veolia Water Plant to the Stanvac Canal and/or supplied to industries for re-use

2.2.1 The treated water containing waste discharged to the Stanvac Canal and/or supplied to industries for re-use in terms of condition 1.1.2 and 1.1.3 respectively, must at all times comply with the quality requirements of the General Standards as prescribed by the Minister in terms of Section 21 (1) (a) of the Act and published in Government Notice 91 of 18 May 1984 and as amended from time to time, with the exception of chemical oxygen demand, electrical conductivity and E. coli which must comply with the relaxation limits prescribed in 2.2.2.

2.2.2 The treated water containing waste mentioned in conditions 2.2.1 must comply with the following relaxed quality requirements:

Substance/parameter	Limit
Chemical oxygen demand	120 mg/l
Electrical conductivity	120 mS/m
E. coli	1000 counts/100ml

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3 MONITORING OF WATER CONTAINING WASTE

3.1 Quantity

3.1.1 The quantity of water containing waste discharged must be monitored as follows:

3.1.1.1 The quantity of the water containing waste discharged via the sea outfall pipeline must be metered and recorded daily at the monitoring point described in condition 6.

3.1.1.2 The quantity of water containing waste discharged from Veolia Water Plant must be metered and recorded daily at a monitoring point agreed to between the Regional Head and the Licensee.

3.1.1.3 The quantity of water containing waste discharged to the Stanvac Canal must be metered and recorded daily at the monitoring points described in condition 6.

3.1.2 Flow metering, recording and integrating devices must be maintained in a sound state of repair and calibrated by a competent person at least once every year. Calibration certificates must be kept available for inspection by the Regional Head.

3.2 Quality

3.2.1 A random grab sample of water containing waste discharged via the sea outfall pipeline in terms of condition 1.1.1 must be taken at the monitoring point described in condition 6;

Variables	units	Frequency
pH		Daily
Chemical oxygen demand	in mg/l	Daily
Electrical conductivity	in mS/m	Daily
Free and saline ammonia (as N)	in mg/l	Daily
Soap, oil and grease	in mg/l	Weekly
Arsenic (as As)	in mg/l	Weekly
Cadmium (as Cd)	in mg/l	Weekly
Chromium (as Cr)	in mg/l	Weekly
Copper (as Cu)	in mg/l	Weekly
Mercury (as Hg)	in mg/l	Weekly
Nickel (as Ni)	in mg/l	Weekly
Lead (as Pb)	in mg/l	Weekly
Zinc (as Zn)	in mg/l	Weekly
Cyanides (as CN)	in mg/l	Weekly
Oxygen absorbed	in mg/l	Weekly
Suspended solids	in mg/l	Weekly

Each sample must be analysed according to condition 6 for the above variables and any other variables as may be required from time to time by the Regional Head.

3.2.2 A random grab sample of water containing waste discharged via the sea outfall pipeline in terms of condition 1.1.1 must be taken at a frequency agreed upon with the Regional

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Head in writing at the monitoring point described in condition 6. Each sample must be analysed according to condition 6 for the following variables:

DDT and derivatives	in mg/l
Dieldrin	in mg/l
Lindane	in mg/l
PCBs	in mg/l
Biological oxygen demand	in mg/l

and any other variables as may be required from time to time by the Regional Head.

3.2.3 Each batch of residue or water containing waste or pesticides to be discharged via the sea outfall pipeline in terms of condition 1.1.1, must be subject to a gas chromatographic analysis.

3.2.4 A random grab sample of the water containing waste supplied to industries for re-use in terms of condition 1.1.3 must be taken at the monitoring point described in condition 6. Each sample must be analysed according to condition 6 for the following variables:

pH	
Suspended solids	in mg/l
Chemical oxygen demand	in mg/l
E coli	counts/100 ml
Electrical conductivity	in mS/m
Ammonia	in mg/l

3.2.5 A random grab sample of the water containing waste discharged into the Stanvac Canal in terms of condition 1.1.2 must be taken weekly at the monitoring point described in condition 6. Each sample must be analysed for the following variables:

pH	
Suspended solids	in mg/l
Chemical oxygen demand	in mg/l
E coli	counts/100 ml
Electrical conductivity	in mS/m
Free and saline ammonia (as N)	in mg/l
Residual chlorine	in mg/l

and any other variables as may be required from time to time by the Regional Head.

3.3 Any other monitoring for flow and quality which may be required from time to time by the Regional Head must be carried out in accordance with condition 6 at monitoring points agreed upon between the Regional Head and the Licensee.

4. MONITORING OF THE RECEIVING MARINE ENVIRONMENT

4.1 The Licensee must ensure that the operation of the present diffusers are optimised, operated and maintained in optimum working condition at all times.

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4.2 The sea must be inspected daily for discolouration caused by the sea outfall. Records must be kept on a daily basis including a summary of actions taken and submitted to the Regional Head on a monthly basis.

4.3 The Licensee must, at intervals not exceeding two years, commission a program of systematic chemical, and marine biological investigations to be carried out in the mixing zone of the water containing waste and surrounding areas of the discharge by a suitably qualified person or body in consultation and to the satisfaction of the Regional Head. A copy of the report must be submitted to the Regional Head after each investigation. If required by the Regional Head in writing, the marine impact monitoring program may be revised.

4.4 The Licensee must compile and submit revised systematic chemical, marine and biological monitoring programs for the receiving marine environment to the Regional Head within six months of the date of this licence.

4.5 Further details regarding the extended monitoring to reduce accumulation of oil into the receiving environment must be submitted to the Department of Environmental Affairs: Marine and Coastal Management Branch within six months of issuance of this licence.

4.6 Monthly monitoring reports must also be submitted to the Department of Environmental Affairs: marine and Coastal Management Branch.

4.7 The Licensee must investigate any other issue regarding the water containing waste discharged into the marine environment should the Regional Head consider such an investigation necessary.

4.8, The Licensee must commission a suitably qualified person(s) or body(ies) agreed to by the Regional Head to conduct an annual marine assessment to determine inter alia the following:

4.8.1 Area of impact of the water containing waste on the surrounding areas;
4.8.2 trend analysis;
4.8.3 compliance to the water quality guidelines; and
4.8.4 accumulative impacts

4.9 This assessment must include monitoring aspects such as:

4.9.1 marine sediments;
4.9.2 macrobentos; and
4.9.3 sea-water

4.10 A copy of the report must be submitted to the Regional Head after each investigation. If required by the Regional Head, in writing, the frequency of the sea monitoring must be amended.

4.11 The Licensee must commission a suitably qualified person or body approved by the Regional Head to conduct annual waste toxicity testing of the water containing waste discharged *via* the sea outfall pipeline to the marine environment. A copy of the report must be submitted to the Regional Head after each investigation. If required by the Regional Head, in writing, the frequency of the sea monitoring must be amended.

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4.12 A random grab sample of the water in the Umlaas Canal must be taken weekly, downstream of the Stanvac canal and at the mouth of the Umlaas canal. Each sample must be analysed according to condition 6 for the following variables:

pH	
Suspended solids	in mg/l
Chemical oxygen demand	in mg/l
Electrical conductivity	in mS/m
Free and saline ammonia (as N)	in mg/l
Residual chlorine	in mg/l
Dissolved Oxygen	in mg/l
E coli	counts/100ml

5. METHODS OF ANALYSIS

5.1 Analysis must be carried out in accordance with methods prescribed by and obtainable from the South African National Accreditation System, in terms of the Standards Act, Act 30 of 1982, or any other method approved of in writing by the Responsible Authority.

5.2 The methods of analysis must not be changed without prior notification to and written approval by the Minister or his/her delegated nominee.

6. MONITORING POINTS

6.1 Quantity

6.1.1 The quantity of water containing waste discharged via the sea outfall pipeline must be metered at the flow measuring flume in the elevated channel, 255 metres upstream of the entrance to the landline.

6.1.2 The quantity of the water containing waste discharged to the Stanvac Canal must be calculated from the difference between the flow passing the measuring flume at the entrance to the aeration chamber and the flow being discharged from Veolia Water Plant.

6.2 Quality

6.2.1 The grab sample to measure the quality of the water containing waste discharged via the sea outfall pipeline must be taken at the automatic sampler in the landline just downstream of the non-return valve.

6.2.2 The quality of the water containing waste discharged to the Stanvac Canal must be monitored at the overflow from Veolia Water Plant.

6.2.3 The monitoring points must not be changed without prior notification to and written approval by the Regional Head.

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7. STORMWATER

7.1 Contamination by any substance (whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises) of stormwater leaving the Licensee's premises must be minimized.

7.2 The waste water system and the stormwater drainage system must be separated. Precautions must be taken to prevent the contents of any of the two systems from entering any other system.

7.3 No industrial waste water must be discharged into any stormwater drain or furrow, whether intentionally or by omission.

8. PIPELINES

8.1 The Licensee must ensure that potable water or final water containing waste from any of its process trains are not contaminated by water containing waste of a lower quality. Any interconnecting pipework between process trains must be adequately controlled by the use of valves which must be isolated in such a manner as only to be operated by a responsible member of staff.

8.2 The pipelines used for the conveyance of water containing waste must be clearly marked, painted in a conspicuous colour or manufactured of a coloured material distinctly different from the colour of the pipelines in which drinking water is flowing to avoid the possibility of any cross-connections of the different pipelines.

8.3 The Regional Head must have the right to inspect the sea outfall pipeline and associated structures and equipment independently and may appoint any person to do such an inspection.

8.4 The pipeline from the Licensee's premises to the beach and pumping facilities must be inspected on a daily basis to check for any leaks or malfunctions and records must be kept of such inspections.

8.5 The Licensee must have headworks to the sea outfall pipeline and associated land based equipment surveyed or checked annually by competent person(s) to monitor its integrity.

8.6 The Licensee must have the full length of the sea outfall pipeline as well as the ocean bed directly above (along which the sea outfall pipeline runs) the sea outfall pipeline and the diffusers surveyed annually by competent divers or any other suitable measures as agreed to by the Regional Head to monitor the stability or any mechanical failure, which may develop. A visual record of the inspection must, either by photographic means, video camera or any other means as agreed to by the Regional Head. This exercise must also be performed upon request by the Regional Head, should reasonable doubt exist as to the condition or operation of the sea outfall pipeline or to the conditions prevailing in the sea.

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9. CONTINGENCIES

9.1 Accurate and up-to-date records must be kept of all system malfunctions resulting in non-compliance with the requirements of this licence. The records must be available for inspection by the Regional Head upon request. Such malfunctions must be tabulated under the following headings with a full explanation of all the contributory circumstances:

9.1.1 operating errors
9.1.2 mechanical failures (including design, installation or maintenance)
9.1.3 environmental factors (e.g. flood)
9.1.4 loss of supply services (e.g. power failure) and
9.1.5 other causes.

9.2 The Licensee must, within 2 hours, notify the Regional Head of the occurrence or potential occurrence of any incident which has the potential to cause, or has caused water pollution, pollution of the environment, health risks or which is a contravention of the licence conditions.

9.3 The Licensee must, within 14 days, or a shorter period of time, as specified by the Regional Head, from the occurrence or detection of any incident referred above, submit an action plan, which must include a detailed time schedule, to the satisfaction of the Regional Head of measures taken to:

9.3.1 correct the impacts resulting from the incident
9.3.2 prevent the incident from causing any further impacts and
9.3.3 prevent a recurrence of a similar incident.

9.4 The Licensee's contingency plan for emergencies must be maintained to the satisfaction of the Regional Head.

9.5 The Licensee must institute a maintenance schedule commensurate with sound maintenance practice. Standby equipment must be installed according to the above practice so that no disruption of the discharge to sea will occur as a result of the equipment downtime due to this maintenance.

9.6 Sufficient spares must be kept available for all pumps, instrumentation and monitoring apparatus. Due regard must be given to spares for equipment that might have to be imported.

9.7 If any leakage of chemicals or oil spillage occur, the Department of Environmental Affairs: Marine and coastal management Branch must be notified immediately

10 REPORTING

10.1 A summary of the details required in terms conditions 3, 4.1, 4.4 and 8.4 of this Licence must be submitted monthly, under reference 16/2/7U602/D13/X1, to the Regional Head or otherwise stated, within one month of the close of the period.

10.2 Reports on the investigations done in terms of conditions 4.2, 4.3, 4.7 and 11 must be submitted to the Regional Head as soon as they become available.

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10.3 A report on the stability, mechanical integrity and physical operation of the pipeline as specified in condition 8.4 and 8.6 of appendix II, must be submitted annually to the Regional Head.

10.4 Should anything in terms of conditions 8.3, 8.4, 8.5, and 8.6 be found to be significantly wrong with the pipeline or any damage occurs which could constitute a threat to the environment, it must be reported to the Regional Head and repairs must be carried out on the pipeline immediately.

10.5 A report summarising the information required in terms of conditions 3, 4, 8, 9 and 11 of appendix II, must be submitted annually to the Department and presented to all stakeholders, including the Department.

10.6 Should the Regional Head deem it necessary, the Licensee must commission an independent peer review of the report required in terms of condition 10.5.

11 INVESTIGATIONS

11.1 The Licensee must ensure that all dischargers of water containing waste into the Southern Wastewater Treatment Works practice inter alia the following:

(i) waste minimisation;
(ii) improvement to the quality of water containing waste being discharged to the works;
(iii) reduction in volume of water containing waste being discharged to the works; and
(iv) use of the best practical environmental option.

11.2 The Licensee must provide proof of compliance with condition 11.1 to the Regional Head at least annually.

11.3 The Licensee must appoint a suitably qualified specialist to verify the dilution achieved by the pipeline. A Report containing the findings of this investigation must be submitted to the Regional Head within one year of issuance of this licence.

11.4 Should the Regional Head be of the opinion that the continuous sea discharge is giving rise to aesthetic problems and unacceptable environmental impacts, the Licensee must implement other measures to achieve acceptable results to the satisfaction of the Regional Head.

[END OF LICENCE]

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