

SCHEDULE 1

PART 4

Intermittent Discharge Standards

Table 1

Intermittent standards for dissolved oxygen in rivers

<i>Salmonid waters</i>			
	Dissolved oxygen concentration (mg/l)		
Return period	1 hour	6 hours	24 hours
1 month	5.0	5.5	6.0
3 months	4.5	5.0	5.5
1 year	4.0	4.5	5.0
<i>Cyprinid waters</i>			
	Dissolved oxygen concentration (mg/l)		
Return period	1 hour	6 hours	24 hours
1 month	4.0	5.0	5.5
3 months	3.5	4.5	5.0
1 year	3.0	4.0	4.5

The standards apply when the concurrent concentration of un-ionised ammonia concentration is below 0.02 mg/l. The following correction factors apply at higher concurrent un-ionised concentrations:
 Where the un-ionised ammonia lies between 0.02-0.15mg NH₃-N/l: the correction factor is an addition of (0.97 x log (mg NH₃-N/l) + 3.8) mg O₂/l. For concentrations that exceed 0.15 mg NH₃-N/l, the correction factor is +2 mg O₂/litre.
 A correction factor of 3mg O₂/l is added for salmonid spawning grounds.

Table 2

Intermittent standards for un-ionised ammonia in rivers

<i>Salmonid waters</i>			
	Un-ionised Ammonia concentration (mg NH ₃ -N/l)		
Return period	1 hour	6 hours	24 hours
1 month	0.065	0.025	0.018
3 months	0.095	0.035	0.025
1 year	0.105	0.040	0.030
<i>Cyprinid waters</i>			
	Un-ionised Ammonia concentration (mg NH ₃ -N/l)		

Changes to legislation: There are currently no known outstanding effects for the The Water Framework Directive (Classification, Priority Substances and Shellfish Waters) Regulations (Northern Ireland) 2015, PART 4. (See end of Document for details)

Return period	1 hour	6 hours	24 hours
1 month	0.150	0.075	0.030
3 months	0.225	0.125	0.050
1 year	0.250	0.150	0.065

The above limits apply when the concurrent concentration of dissolved oxygen is above 5 mg/l. At lower concentrations of dissolved oxygen the following correction factor applies: For dissolved oxygen less than 5mg/l DO, multiply the standard by 0.0126 and the concentration of dissolved oxygen in mg O/litre, C, raised to the power of 2.72, that is, $0.0126 C^{2.72}$.

The standards also assume that the concurrent pH is greater than 7 and temperature is greater than 5 degrees Centigrade. For lower pH and temperatures the following correction factors apply: Where the pH is less than 7, multiply the standard by 0.0003 and by the value of the pH, p, raised to the power of 4.17, that is: $0.0003p^{4.17}$. Where the temperature is less than 5 degrees Centigrade, multiply this correction factor by a further 0.5.

Table 3

99th percentile standards for biochemical oxygen demand in rivers

<i>Status</i>	<i>Types of river</i>	<i>99th percentile BOD (mg/l)</i>
High	1,2,4,6 and salmonid	7.0
High	3,5 and 7	9.0
Good	1,2,4,6 and salmonid	9.0
Good	3,5 and 7	11.0
Moderate	1,2,4,6 and salmonid	14.0
Moderate	3,5 and 7	14.0
Poor	1,2,4,6 and salmonid	16.0
Poor	3,5 and 7	19.0

Table 4

99th percentile standards for ammonia in rivers

<i>Status</i>	<i>Types of river</i>	<i>Total ammonia (mg NH4-N/l)</i> <i>99th percentile</i>	<i>Un-ionised ammonia (mg NH3-N/l)</i> <i>99th percentile</i>
High	1,2,4,6 and salmonid	0.5	0.04
High	3,5 and 7	0.7	0.04
Good	1,2,4,6 and salmonid	0.7	0.04
Good	3,5 and 7	1.5	0.04
Moderate	1,2,4,6 and salmonid	1.8	0.04
Moderate	3,5 and 7	2.6	0.04
Poor	1,2,4,6 and salmonid	2.6	0.04

Poor	3,5 and 7	6.0
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Table 5

Types of river to which the proposed 99th percentile standards in Tables 3 and 4 apply

<i>Alkalinity (as mg/l CaCO₃)</i>					
Altitude	Less than 10	10-50	50-100	100-200	Over 200
Under 80 metres	Type 1	Type 2	Type 3	Type 5	Type 7
Over 80 metres			Type 4	Type 6	

Changes to legislation:

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