

SECTION 14 INCIDENT REPORT (*Waste Management and Pollution Control Act*)

Date and Time of Notification:	Thursday 17 th December 2020, 10:47am
Person / Company:	Power and Water Corporation (PWC)
Incident:	Discharge of treated effluent from Alpururulam (Lake Nash) Waste Stabilisation Pond (WSPs).

(a) the incident causing or threatening to cause pollution	<i>i. Description of the waste that was discharged.</i> Treated effluent (no gross pollutants). <i>ii. Indicative wastewater quality for the discharge.</i> We do not have any analysis results from the site for treated wastewater quality, however estimates from modelling are attached below. Pond performance statistics for this pond set can be found in Table 1 below. <i>iii. Volume of the waste that was discharged.</i> The estimated volume of waste discharged is approximately 250kL. No telemetric monitoring occurs at the discharge site. The overflow was observed by the local Essential Services Operator and PWC staff. The overflow was observed at approx.. 8.30 am on 16th December 2020. The overflow was stopped at approx.. 13.30pm on 17th December 2020. The discharge of treated effluent occurred from the emergency overflow channel on the third and final pond of the pond set, and discharged to the land directly beside the facility – as per photos below.
(b) the place where the incident occurred	<i>i. Description of the PWC asset from which the discharge occurred.</i> Lake Nash Wastewater Stabilisation Ponds – as per map below. <i>ii. GPS coordinates of the discharge point from the PWC asset, and the final coordinates of the final discharge point.</i> Overflow Channel location: 20.9787021 S, 137.8341843 E Pooling location: 20.9779435 S, 137.8339299 E The overflow was caused by a failure of the irrigation pump due to a blockage of the intake. As the irrigation pumped was blocked, the

	pond level continued to rise until an overflow occurred from the emergency overflow channel. <i>iii. Indicate any locations nearby to the discharge point where public can gain ready-access, such as public open spaces through which the discharge moves.</i> Public access is available throughout the area due to nearby bushland surrounding the WSP's, however public access is not believed to occur regularly. Road closed signs have been placed on both ends of the only access track effected to deter access by the public.
(c) the date and time of the incident	<i>i. The time and date of commencement and cessation of the discharge.</i> The start time of the overflow is unknown but was first observed by the ESO and PWC Coordinator at approx. 8.30am on 16th December 2020. The overflow ceased at approx. 13.30pm on 17th December 2020. <i>ii. How PWC were notified, or became aware of the discharge.</i> The overflow was observed by the local ESO and PWC Coordinator while PWC while on site – from this the ESO worked with PWC operations to clear the blockage and resume irrigation allowing the reduction of pond levels. <i>iii. The process by which the discharge occurred.</i> The overflow was caused by a failure of the irrigation pump due to a blockage of the intake. As the irrigation pumped was blocked, the pond level continued to rise until an overflow occurred from the emergency overflow channel. The actual cause of the blockage is currently unknown but is being investigated (i.e. biological fouling on the intake). <i>iv. The reason why the discharge occurred.</i> As per (c) iii.
(d) how the pollution has occurred, is occurring or may occur	As per (c) iii & (c) iv.
(e) the attempts made to prevent, reduce, control, rectify or clean up the pollution or resultant environmental harm caused or threatening to be caused by the incident	The pump intake has been partially cleared allowing pumping to the irrigation area again. Contractors will be mobilising from Alice Springs on Mon 21st December to overhaul the system and further increase pumping capacity. <i>i. Confirmation signage and fencing has been erected, as appropriate.</i> The site is not fenced off to the public due to its large size. Road closed signs have been positioned on both of the access points to the overflow site to deter access by the public. <i>ii. Decontamination of the site as appropriate.</i>

	Site has been monitored for gross pollutants however none identified. Final ponds are generally free of these types of materials. Road closed signs and overflow signs will remain in place five days post evaporation of the pooling. Daily monitoring of the site will occur until this point in time.
(f) the identity of the person notifying the NT EPA	PWC Environmental Team on behalf of Water Services

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Table 1 – Lake Nash Pond Performance Estimates

	Mean				
	RAW SEWAGE	POND 1	POND 2	POND 3	TOTAL
RETENTION TIME		14.84	10.23	10.79	35.87
BOD LOADING		183.9704	125.2194	107.985	
BOD (mg/L)	199.9	117.6	106.4	96.2	
BOD REMOVAL		41.18%	9.56%	9.62%	51.88%
E. COLI (cfu/100mL)	5,560,852	919,838	172,422	31,477	
E. COLI REMOVAL		83.47%	81.64%	82.51%	99.4342%
HELMINTH (counts/mL)	550	1	0	0	
HELMINTH REMOVAL		99.78%	99.24%	99.35%	Approx. 99%
NH3 (mg/L)	28.6	15.1	8.3	4.5	
NH3 REMOVAL		47.11%	45.47%	45.77%	84.34%
TKN (mg/L)	51.5	31.5	19.6	12.2	
TKN REMOVAL		38.90%	37.81%	37.69%	76.32%

*Sampling completed at other southern remote communities suggests that BOD and pathogen loadings are substantially lower than assumed in these models.

Figure 1 – Location map



Figure 2 – Emergency overflow channel



Figure 3 – Overflow site facing towards pooling



Figure 4 - Pooling



Figure 5 – Road closed sign 1



Figure 6 – Road closed sign 2

