Northern Territory Environment Protection Authority

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

Date and Time of Notification:	Monday 9th March 2020, 14:27pm (PRL8841)
Person / Company:	Power and Water Corporation (**PWC**)
Incident:	Discharge of highly diluted sewage from sewerage network due to wet weather

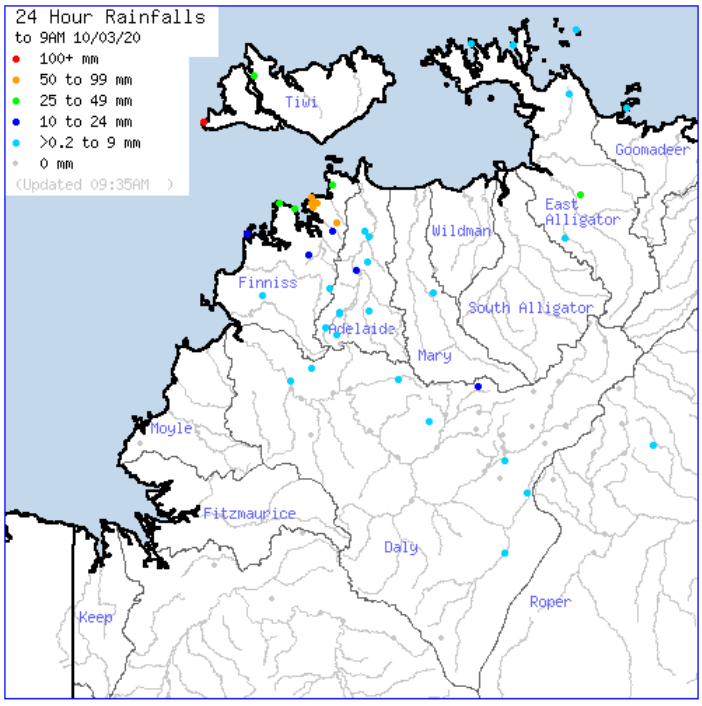
(a) the incident causing or threatening to cause pollution	*i. Description of the waste that was discharged.* Highly diluted sewage. *ii. Indicative wastewater quality for the discharge.* Indicative wastewater quality for this overflow can be found in Table 1. Rainfall leading up to the overflow was 197.8mm for the previous 7 days (Darwin Airport Weather Station – 014015), with high rainfall events occurring within short timeframes resulting in flash flooding – as shown in Figure 1 below several downpours ranging from 50 – 99m were received in throughout the Darwin region in a matter of hours on 9/03/20. As a result inflows of up to 76ML/day at Ludmilla Wastewater Treatment Plant (WWTP) equating to >5x Average Dry Weather Flows (ADWF) as per Table 1 below. 

Table 1: Inflows to Ludmilla WWTP

Inflow volume	median inflow kL	median E coli	90th percentile inflow kL	90th percentile E coli
below ADWF	11,040	11,199,000	12,925	15,531,000
>ADWF (14.5 ML/day)	15,274	9,804,000	22,206	17,148,300
>2xADWF (29 ML/day)	31,673	4,884,000	37,166	14,385,600
>3xADWF (43.5 ML/day)	43,629	4,611,000	50,506	12,843,600
>5xADWF (72.5 ML/day)	71,558	5,002,000	78,578	5,905,200

iii. Volume of the waste that was discharged.

The volume of waste discharged at each discharge location is unknown. No telemetric monitoring occurs at these locations, with the exception of the sewer relief point located at the corner of Rapid Ck Road and Trower Road. This data will be downloaded shortly.

(b) the place where the incident occurred

i. Description of the PWC asset from which the discharge occurred.

Property Overflow Relief Gully (ORG) – 18 Ludmilla Terrace, Ludmilla
ORG – 4 Fulton Place, Millner
ORG – 11 Carrington Street, Millner
ORG – 4 Millner Place, Millner
Manhole – Cnr of East Point Road and Gregory Street, Fannie Bay
Manhole – Corner of Lampe Street and Knight Street, Fannie Bay
Manhole – 5 Roberts Place, Millner
Manhole – 78 Ryland Road, Rapid Creek
Sewer Relief Point (SRP) – 194 Casuarina Drive, Nightcliff
SRP – Cnr Rapid Creek Road and Trower Road, Rapid Creek
SRP – 4 Britomart Road, Alawa
SRP – 24 East Point Road, Fannie Bay
Sewer Pump Station (SPS) – Coconut Grove
SPS – Rapid Creek
SPS – Lakeside Drive
SPS – Palmerston Park

As per mapped locations within attached Wet Season Overflow Notification Spreadsheet.

ii. Indicate any locations nearby to the discharge point where public can gain ready-access, such as public open spaces through which the discharge moves.

Public access is available to discharge locations throughout Darwin although due to wet weather conditions present the likelihood of people visiting these areas is low. Where possible areas impacted by the discharges have been fenced off and signed preventing access by the general public, as per attached overflow logsheets.

(c) the date and time of the incident

i. The time and date of commencement and cessation of the discharge.

As per table below.

ORG - 18 Ludmilla Terrace	Unknown time – 9/03/20	11:30am – 9/03/20
ORG - 4 Fulton Place	Unknown time – 9/03/20	Unknown time – afternoon of 9/03/20
ORG - 11 Carrington Street	Unknown time – 9/03/20	Unknown time – afternoon of 9/03/20
ORG - 4 Millner Place	Unknown time – 9/03/20	Unknown time – afternoon of 9/03/20
Manhole - Corner of East Point Road and Gregory Street	Unknown time – 9/03/20	Unknown time – afternoon of 9/03/20
Manhole - Corner of Lampe Street and Knight Street	Unknown time – 9/03/20	Unknown time – afternoon of 9/03/20
Manhole - 5 Roberts Place	Unknown time – 9/03/20	Unknown time – afternoon of 9/03/20
Manhole - 78 Ryland Road	Unknown time – 9/03/20	Unknown time – afternoon of 9/03/20
SRP - 194 Casuarina Drive	9:45am 9/03/20	12:45pm 10/03/20
SRP – Cnr Rapid Ck Rd & Trower Rd	8:00am 9/03/20	8:00am 10/03/20
SRP – 4 Britomart Road	10:30am 9/03/20	13:30pm 9/03/20
SRP – 24 East Point Road	9:30am 9/03/20	3:00am 10/03/20
SPS – Coconut Grove	10:18am 9/03/20	14:40pm 9/03/20
SPS – Rapid Ck	20:08pm 8/03/20	3:09am 9/03/20
SPS – Rapid Ck	9:39am 9/03/20	10:00am 10/03/20
SPS – Lakeside Drive	19:23pm 8/03/20	21:10pm 8/03/20
SPS – Ludmilla	19:30 8/03/20	2:00am 11/03/20
SPS – Lakeside Drive	9:31am 9/03/20	10:00pm 10/03/20
SPS – Palmerston Park	9:46am 9/03/20	10:39am 9/03/20

ii. How PWC were notified, or became aware of the discharge.

	PWC call centre was notified of overflowing property ORG's and remaining locations were checked routinely by Operations staff. *iii. The process by which the discharge occurred.* Due to significant rainfall in the Darwin catchment over the past few days, and in particular significant downpours within short periods of time, sewage volumes within the sewerage system have increased significantly due to inflow and infiltration of stormwater. As a result of this, sewer overflows have occurred from sewer infrastructure. Power and Water also undertook opening sewer relief points to relieve pressure in the system and manage potential human health/environmental impacts. *iv. The reason why the discharge occurred.* As per (c) iii. Sewerage network infrastructure has been designed to overflow with the best public health and environmental outcomes possible. Design focuses on not overflowing directly inside houses; rather discharge is designed to occur in a controlled manner at locations which can be accessed for infrastructure repair and clean up and with minimal public health or environmental impacts.
(d) how the pollution has occurred, is occurring or may occur	As per (c) iii & (c) iv. The risks of environmental harm from the overflows are low as the wastewater discharged was highly diluted and discharged into a receiving environment also swollen with intense rainfall and urban stormwater runoff. Minimal environmental harm resulting from the discharge is anticipated as the effluent discharged was highly diluted due to the intense rainfall and discharged into areas already significantly impacted due to catchment/ stormwater runoff due to intense rainfall. It is not possible to prevent overflows in extreme rainfall events and the system is designed to permit overflows rather than resulting in structural collapse and public health impacts from sewage backing up in homes.
(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	*i. Confirmation signage and fencing has been erected, as appropriate.* Where possible signage and fencing was installed to alert the public and prevent access to the sites as per Sewage Spills/Overflow Response Work Instruction. *ii. Decontamination of the site as appropriate.* Clean up consistent with Sewage Spills/Overflow Response Work Instruction as appropriate to the location, and to minimise risk to the environment.
(f) the identity of the person notifying the NT EPA	PWC Environmental Team on behalf of Water Services

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