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12 July 2012

Our reference 2012/00000140

Environment Protection Authority (EPA)
PO Box 668
PARRAMATTA NSW 2124

Attention Kieran Lynch, A/Head, Water Infrastructure

Reference: Malabar WWTP – Dry Weather Bypass 19 June 2012

Dear Kieran

Following is a report prepared in accordance with clause R3.3 of EPA Licence 372 regarding a dry weather bypass that occurred at Malabar WWTP on 19 June 2012. The second section of this report responds to questions put in an email from your Ms Raffell to Sydney Water's Greg Cawston on 20 June 2012.

R3.3(a) the cause, time and duration of the event;

At 20:53:29 hours on 19 June 2012 an earthquake in the Latrobe Valley, Victoria caused a number of generators to trip, reducing power to the electrical grid by 2,000MW. This loss in generation caused a dip in the frequency of power delivered to the eastern seaboard of Australia which was detected by protection relays at Malabar WWTP. These protection relays are a regulatory requirement of Ausgrid as Malabar exports electrical power into the external grid from time to time. As this frequency dip (49.2Hz) went below the lower limit of the controller (49.3Hz) the protection relay operated as designed and isolated the plant from the external power supply. At that point, the uninterruptable power systems (UPS) on site should take over and power a sequence of process controllers to bring the site diesel generator on line. However investigations have shown the UPS did not cleanly power the control sequence, causing the processors to stall. As a result the plant was without power from 20:53hrs to 22:34hrs, when the on-site diesel generators were manually connected to provide power. The plant then operated in "island" power mode until advice was received from Ausgrid to reconnect the plant to the external power supply. This reconnection took place at 01:13hrs.

When electrical power is lost, flows cannot be pumped to discharge through the deep ocean outfall. In these circumstances, to protect the plant from flooding and potentially being off line for months, flows bypass the plant and discharge at the submerged outfall on Malabar Headland (EPA Identification point 4). The bypass commenced at 21:05hrs and stopped at 23:34hrs. The duration of the bypass was 2 hours 29 minutes

R3.3(b) the type, volume and concentration of every pollutant discharged as a result of the event;

It is estimated 63ML of raw sewage bypassed the plant in this event. The concentration of pollutants measured in the influent on the day of the event (19 June 2012) are tabulated below.

Sydney WATER

Analyte	Units	Influent Monitoring Point (as defined in EPA Licence 372)	
		Point 7	Point 8
Oil and grease	mg/L	44	37
Total Suspended Solids	mg/L	265	259

R3.3(c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the incident;

Employees present when the power failure occurred were Shiftwork Production Officers Sangeetha Sindhe, Josef Rizal, Harry Miliatis and Kamisese Senico. Those who attended the site in response to the incident were; Plant Manager (Greg Melville), Production Officers (Osman Mahmet, Alexander Korjenevski), Electricians (Sean Croxon, Glen Parsons, Patrick Aggett, Grant Collie and Trevor White), Co-generation specialist (Jason Boyd) and Controls Specialist (Richard Camilleri). At first light the next day Customer Relation Officer (Heath Kellar) and Field Services Officer (Tiffany Smith) took water quality samples from Long Bay and Maroubra Beach. The contact address for these persons is: Malabar WWTP, Fishermans Rd, Malabar NSW 2036. Telephone number (02) 99318 982 – Greg Melville.

R3.3(d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain this information after making reasonable effort;

Nil

R3.3(e) actions taken by licensee in relation to the event, including follow-up contact with any complainants;

Action taken during the event first concentrated on understanding the reason for the power failure (to ensure safety risks were appropriately controlled) then the focus shifted to restoring power and normal operations. No complaints were received during the event. Field tests, observations and bacteriological results taken at first light the following morning at Long Bay and Maroubra beaches were not indicative of sewage pollution. Results showed bacteriological counts were within ANZECC guidelines for a primary contact recreational waterway. To view these results, refer attachment A.

R3.3(f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event;

Investigations and debriefs have occurred to identify the root cause of the failure and take action to minimise the risk of a recurrence. Two major actions being taken are:

- **UPS Audit:** Sydney Water commenced an audit program of all UPS across its area of operation mid 2011. Within this program the audit of Malabar commenced the week preceding the event. The audit report is now at hand and is attached (attachment B). Immediate actions to reinstate the capability of the UPS are underway and will be completed this month. As well, longer term actions to

upgrade the UPS will be proposed for funding in this financial years capital works program.

- **External Power Protection Relay Settings:** Negotiations commenced with Ausgrid on 29 June 2012 to determine the possibility of eliminating or modifying the requirement for SWC to disconnect from the grid in the event of a power fluctuation. The aim is to improve the reliability and operability of the system, which in turn will reduce the risk of a recurrence.

*Following are responses to the questions put in an email from Gillian Reffell to Greg Cawston on 20th June 2011. Gillian's questions are shown in **bold** font.*

It is understood that the power failed at 8.57 but that back up power did not cut in until 10.28. Account for the one and a half delay in the cut in of back-up power.

Refer to details in clause R3.3(a) above. When the protection relay isolated the site from external power and the controllers stalled, manual diagnosis and intervention was required by high voltage (HV) operators to ensure the plant was safe before the switching sequence could be completed to allow the diesel generator to power to the Plant. A summary of events follows;

Time	Event Summary
8.54	Ausgrid frequency drop. Protection relay activated and isolated the plant from external power. When this occurred the UPS did not cleanly power the control sequence, causing the process to stall. As a result all power was lost to operate the plant.
9.00	HV electricians called
9.05	One by-pass penstock opened to prevent the plant from flooding. By pass commenced.
9.25	Supervisor electrician on site (investigation commenced)
10.05	First HV electrician on site
10.20	Second HV electrician on site
10.30	Manual intervention by HV operators commenced including switching to allow the diesel generator to commence delivering partial power for essential services. Manual high voltage and low voltage power switching continued.
10.30 – 11.34	Plant processes progressively restarted & stabilised
11.34	Plant bypass penstock closed. Bypass ceased.

In accordance with safety procedures two HV electricians are required before switching can take place.

It is understood that back up diesel power commenced at 10:28pm but deep ocean outfall pumps did not start. Account for this failure. In addition provide maintenance records of the equipment immediately involved in the failure, information about the regime for testing the equipment and also the date of the last test of this equipment.

Once the diesel generators were connected to power the site, manual switching was required to progressively bring the plant back on line. Initial switching focused on essential systems and then processes within the plant were reset and systematically returned to service.

The time taken reflects the duration to undertake these tasks in a safe, systematic manner.

The root cause of the incident was a partial failure of the UPS, which resulted in the control switching process to stall. Of the 7 UPS at Malabar, 5 are part of the system involved in the incident. These 5 units are known by their location (area) on the plant, which is 9A, 5C, 10A, MEC and 5 .

Preventive maintenance and testing of these units is scheduled to be carried out every 6 months. However checks of maintenance records have shown:

- February 2011 – Test found all equipment was operating as per specifications. For test results refer attachment C.
- June 2011 – Deficiencies identified in these tests were not acted upon at that time. Reasons for not taking action related in part to a Sydney Water wide audit of UPSs that commenced in June 2011, which has an objective of developing a unified approach to UPS equipment, maintenance and testing across the organisation. In addition, a quote in August 2011 to make good the deficiencies had conditions of contract from the supplier that were unacceptable to Sydney Water and therefore were not acted upon cognisant of the audit. For test results refer to attachments D (MEC), E (10A), F (5) and G (9A). Results could not be found for area 5C UPS.
- December 2011 – Testing was not carried out at Malabar, as it awaited its turn to be audited as part of the Sydney Water wide UPS audit program.
- June 2012 – Malabar WWTP UPS was audited. Refer attachment B. As mentioned above, immediate actions to reinstate the capability of the UPS are underway and will be completed this month. As well, longer term actions to upgrade the UPS will be proposed for funding in this financial years capital works program.

Sydney Water called the Environment Line at 10.47pm. It is understood that the internal power failure occurred at 8.57, the sewer bypass commenced at 9:20pm and the back up diesel power commenced at 10:28pm. Please account for the one and three quarter hour delay in informing the Environment Line after the bypass commenced at 9.20pm.

Sydney Water's records show the call to the Environment Line was made at 10.14pm, not 10.47pm as noted in Ms Reffell's email. The Environment Line reference number is 137856. Notification was made without undue delay given the immediate need to focus on mobilising resources to address the problem to minimise the risk to safety, community and environment. The loss of power to the site also limited telecommunications with personal on site. Several telephone conversations took place between your duty officer (David Gathercole) and Sydney Water's Craig Barton during the event to keep the EPA informed of developments and strategies to check the water quality at Long Bay and Maroubra Beach at first light the following morning.

Sydney WATER

It is understood that Sydney Water failed to advise Beachwatch of the incident due to the fact that the contact details were not readily available. Please advise how contact details for POEO mandatory reporting and also reporting under EPL 372 managed and made available.

Reporting of incident of this type is carried out in accordance with a Reporting Standard Administrative Procedure (SAP), which is part of Sydney Water's quality system. Refer attachment H. Contact details for Beachwatch in this procedure are an office telephone number, office fax number and email address (refer page 32). On the night of the incident Craig Barton briefed David Gathercole of Sydney Water's plans to inspect beaches in the vicinity at first light and take water quality samples. It was agreed it would be best if Beachwatch could participate in these inspections, however using any of the methods of contact in the procedure was likely to result in the information being received too late. In response, an offer from David was accepted whereby he would use contact options available to him within the EPA to get the information to Beachwatch as soon as possible.

Arising from this shortcoming after hours contacts for Beachwatch have now been received and will be incorporated into the Reporting SAP.

A copy of any emergency procedures or policies relevant to STP dry weather sewer bypasses.

Sydney Water's Treatment operates under certified quality systems. Within these system is a Treatment wide process for reporting incidents (attachment H). Then each plant has its own Standard Incident Procedures (SIPs) to cover a range of events. SIPs relevant to this event at Malabar WWTP are:

- Underground ventilation failure. Attachment I
- Emergency operation of bypass penstocks. Attachment J
- Bypass events Attachment K
- Critical power failure Attachment L
- DCS operation failure Attachment M

Yours sincerely

Craig Barton
Treatment Manager, South

Sydney WATER

Attachments:

A) Field Services Group (Report 69760) – Results of Environmental Response 20/6/12 – Long Bay and Maroubra Beach. 12 pages.
B) UPS Technical Audit Report by MARM UPS Pty Ltd 26 June 2012. 40 pages
C) UPS Field Service Report – APC Schneider 4/2/11. 1 page
D) UPS MEC maintenance report by Schneider. 27 June 2011. 12 pages
E) UPS Area 10A maintenance report by Schneider. 27 June 2011. 8 pages
F) UPS Area 5 maintenance report by Schneider. 27 June 2011. 11 pages
G) UPS Area 9A maintenance report by Schneider. 27 June 2011. 14 pages
H) Reporting Standard Administrative Procedure. Document Number DC-TOHQ0015. 40 pages.
I) Standard Incident Procedure – Underground ventilation failure. 1 page
J) Standard Incident Procedure – Emergency operation of bypass penstocks. 4 pages
K) Standard Incident Procedure – Bypass events. 2 pages
L) Standard Incident Procedure – Critical power failure. 2 pages
M) Standard Incident Procedure – DCS operation failure. 1 page

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12 November 2012

Environment Protection Authority (EPA)
PO Box 668
PARRAMATTA NSW 2124

Our reference 2012/00000140-121112

Attention Frank Garofalow, Manager, Metropolitan Infrastructure

Reference: Malabar WWTP – Dry Weather Bypass 19 June 2012

Dear Frank

Sydney Water submitted a report to the EPA on12 July 2012 (our reference 2012/00000140) in accordance with clause R3.3 of EPA Licence 372 regarding a dry weather bypass that occurred at Malabar WWTP on 19 June 2012. Subsequently, Sydney Water commenced a detailed independent investigation on the incident and the report of this investigation is now available and attached. Outcomes of the detailed incident investigation and other information that has come to light with additional tests reveal that the cause of the incident was different to what was initially reported to the EPA on 12 July 2012. Sydney Water is resubmitting this report with the updated information.

R3.3(a) the cause of the event;

The EPA was advised in July 2012 that based on a preliminary investigation the cause of the Incident was believed to be a failure of the Uninterruptable Power Supply Systems (UPS) serving the Plant. The UPS' batteries were replaced shortly after the Incident. Further "Black Start' testing of the electrical switching sequence for the plant on the 19 September 2012 shows the Plant did not respond as required once the UPS were repaired, which was an indication that the failure of the UPS may not have been the root cause of the Incident.

An independent review and fact finding investigation was initiated in September 2012. A summary of the findings of the investigation is given below:

The Incident occurred when a dip in the frequency of the external electrical supply caused the circuit breakers on the 4 external electrical feeders to 'trip'. Ausgrid advised it was caused by an earthquake in the LaTrobe Valley. This response to the dip is as per design of the system and is to protect the external power supply when the co-generation unit is running.

The sequence of events and subsequent investigations show that back-up power provided by the UPS was in operation. Immediately following the feeders tripping the automatic switching sequence was initiated and the back-up diesel generators did commence. The fact that the generators started means that the UPS units were providing sufficient power to allow the auto switching sequence to function and the Automatic Switching Sequence was inhibited after the ignition of the generators. The

inhibition of the auto-switching sequence meant that the diesel generators remained isolated, hence power to the plant could not be supplied by the generators.
Analysis of alarm logs and follow-up testing now confirm that the reason why the auto-switching sequence was inhibited was the failure of an electrical bus tie (switch) on bus 'C'. This was therefore what caused the incident - not failure of the UPS as initially thought. The repair of the bus-tie found that the failure was due to a spring which is housed within the bus-tie switch mechanism.

In the course of the Incident the operators initiated Standard Incident Management Procedures and proceeded to open the penstocks which led to untreated sewage being discharged through discharge points 3 and 4 of Malabar's Environment Protection Licence.

Once on-site, High Voltage Electricians investigated the matter and commenced manual switching to connect the site to the diesel generators power supply. As switching occurs, power was progressively restored to the plant from the diesel generators.

At 23:34 hrs sufficient power was available to run critical parts of the plant and allow the Penstocks to be fully closed, and hence the bypass through Licence discharge points 3 and 4 ceased.

The technicians worked backwards using the High Voltage system diagram and found bus-tie C open, and manually closed it. This allowed full power to be restored to the plant from the Diesel Generators. Given the evidence that bus-tie C functioned once closed, it appears there was not a problem with the switch itself, but with the closure mechanism. This is consistent with the later discovery that the spring required to close the switch had lost tension.

R3.3(b) the type, volume and concentration of every pollutant discharged as a result of the event;

No change to the information provided to the EPA on 12 July 2012.

R3.3(c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the incident;

No change to the information provided on 12 July 2012.

R3.3(d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain this information after making reasonable effort;

No change to the information provided on 12 July 2012.

WATER

R3.3(e) actions taken by licensee in relation to the event, including follow-up contact with any complainants;

See below.

R3.3(f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event;

In addition to the information provided by Sydney Water on 12 July 2012, further actions have been undertaken to understand the root cause of the incident with the aim to prevent any future incidents of similar nature.

1. An independent investigation was carried out and a report attached in Appendix 1
2. Two "black start" (power failure) tests have been carried out to confirm the root cause of the incident and to ensure the corrective actions taken are effective. Details of these tests are given below:

The "black start' tests of the plant electrical switching sequence occurred on:

1. 19 September 2012; and
2. 16 October 2012

On the first "black start" the plant did not respond as required. As a result of this the bus-tie on bus 'C' was identified as a problem and repaired. In the second black start, the auto switching sequence ran correctly; verifying that the root cause of the Incident had been rectified.

*Following are responses to the questions put in an email from Gillian Reffell to Greg Cawston on 20th June 2011. Gillian's questions are shown in **bold** font.*

It is understood that the power failed at 8.57 but that back up power did not cut in until 10.28. Account for the one and a half delay in the cut in of back-up power.

No change to the information provided on 12 July 2012

It is understood that back up diesel power commenced at 10:28pm but deep ocean outfall pumps did not start. Account for this failure. In addition provide maintenance records of the equipment immediately involved in the failure, information about the regime for testing the equipment and also the date of the last test of this equipment.

The diesel generators were heard running shortly after 21:00 indicating that they would have started up shortly after the feeders tripped. However, they remained isolated from the plant because of the failure of bus-tie C. The connection of the generators to the Plant required the HV electricians to run complete switching manually.

Sydney WATER

Sydney Water called the Environment Line at 10.47pm. It is understood that the internal power failure occurred at 8.57, the sewer bypass commenced at 9:20pm and the back up diesel power commenced at 10:28pm. Please account for the one and three quarter hour delay in informing the Environment Line after the bypass commenced at 9.20pm.

No change to the information provided on 12 July 2012.

It is understood that Sydney Water failed to advise Beachwatch of the incident due to the fact that the contact details were not readily available. Please advise how contact details for POEO mandatory reporting and also reporting under EPL 372 managed and made available.

No change to the information provided on 12 July 2012.

A copy of any emergency procedures or policies relevant to STP dry weather sewer bypasses.

No change to the information provided on 12 July 2012.

Yours sincerely

Greg Cawston
Manager Treatment

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Attachments:

Attachment 1 – Report of the independent investigation

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Sydney WATER

SW Ref: 7796

Malabar Wastewater Treatment Plant – Sewage Bypass

At 8:57pm on 19 June 2012 a power supply anomaly experienced at Malabar Wastewater Treatment Plant (WWTP) resulted in the plant bypassing raw sewage to the cliff-face discharge point at Yellow Rock. Operations were restored at 11:32pm. It is suspected that the power supply issue was a flow-on effect from the Victorian earthquake.

Context

At 8.57pm on 19 June the electrical power supply to Malabar Wastewater Treatment Plant failed. This resulted in a bypass of raw sewage from the plant.

While investigations are continuing it is thought seismic activity in Victoria disturbed the power supply grid on the eastern seaboard. When the site's control system sensed this disturbance it isolated the site.

Although the emergency electrical diesel generators started as intended, they did not connect to the site power system due to what appears to be a failure of the uninterruptable power supply system. This in turn meant the control system was not functioning. Operation was resumed at 11:32pm and the bypass stopped.

It has been approximately 14 years since the last bypass incident at Malabar WWTP.

Current Situation

Sydney Water has notified the Environment Protection Authority, Randwick Council and Beachwatch.

Sampling at Malabar Beach has not identified visible signs of pollution, however, sampling at the Northern end of Maroubra Beach has identified a foam/film that may be sewage related. Randwick Council has been requested to inspect the area and take appropriate action.

Beachwatch has issued advice on its Twitter account alerting people to the bypass and asking them to contact Sydney Water for more details.

Sydney Water will undertake a review to understand which part of the system failed.

Endorsed by:
General Manager
Colin Nicholson
General Manager,
Operations

1. Managing Director	2. Chief of Staff	3. Minister
20/6/12		20/6/12

MALABAR WASTEWATER TREATMENT PLANT BYPASS

ISSUE: Bypass of raw sewage at Malabar Wastewater Treatment Plant on 19 June 2012.

SUGGESTED RESPONSE:

Sydney Water has advised that at 8:57pm on 19 June 2012 a power supply anomaly was experienced at Malabar Wastewater Treatment Plant. This resulted in the plant losing power and bypassing raw sewage to the cliff-face discharge point at Yellow Rock.

Although the emergency generators started, they did not continue to operate because of a system failure. Operations were restored at 11:32pm.

Samples are being taken from surrounding beaches to determine if there has been any impact and Sydney Water will continue to monitor the situation.

How about Kelly to Commit?

Sydney Water has notified the relevant authorities including Randwick Council and the Environment Protection Authority.

It should be noted that it is around 14 years since the last bypass incident at the Malabar Plant.

Sydney Water will undertake a review to determine why the emergency electricity supply did not operate as intended.

Contact Officer: Catherine Johnson

Phone: 8849 5296

Mobile: 0421 338 720

Title: Manager, Corporate Relations, Sydney Water

Updated: 20 June 2012

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Sydney WATER

07 November 2012

Mark Hanemann
A/Head Metropolitan Infrastructure (Water)
NSW Environment Protection Authority
POBOX 668
Parramatta NSW 2124

Mr Hanemann

RE: Your email to Sunietha Katupitiya of 26th October 2012 requesting a response to a self-report by Sydney Water to EPA (Ref: I05392-2012) regarding a procedural error at Riverstone WWTP.

The following is the response to the questions from the above mentioned email. Additional information has also been provided to **Ms Bernie Turner**, Regional Operation Officer on 11th October 2012

1. **The cause, time and duration of the incident.**

   The Riverstone WWTP exceeded its discharge Dry Weather plant capacity of 200L/s. The cause of the overflow was a combination of both plant and SPS maintenance which occurred at the same time. The balance tank (which evens out the incoming flow to the plant) was offline for maintenance and SPS 564 had been shutdown to facilitate maintenance. When the pumping station was returned to service the incoming flow went from the inlet works into the Primary Sedimentation tanks bypassing the balance tank which created a wave of flow through the plant. This flow continued to the Tertiary Filters. The increase flow then activated the penstocks (4) in the Tertiary Filters as it registered the increase as wet weather flow. This diversion protects the filters in wet weather. The excess flow then bypassed the Filters to the Disinfection Tanks and through the effluent monitoring point. The overflow at the effluent monitoring point started at 16:16:36 on 10/10/2012 and finished 16:22:51 a total of 6 minutes and 15 sec.

2. **The type, volume and concentration of every pollutant discharged as a result of the incident.**

   The overflow exceeded 200L/s -the licence capacity of the Disinfection process.

   The extra flow of ~4000L was for a period of 6.15 minutes. The total amount of treated effluent released from the plant for that day was 54000 litres.

   Below is data from the Riverstone WWTP for 3 days:

Date	10/10/2012	11/10/2012	12/10/2012
pH hand held	6.99	7.0	7.1
NH3-N	0.82mg/L	1.74mg/L	0.23mg/L
NOx-N	5.6mg/L	6.7mg/L	2.8mg/L
Alkalinity	91mg/L	95mg/L	98mg/L

Sydney WATER

3. **Action taken by Sydney Water in relation to the Incident.**

   The Riverstone Sewerage Catchment, Operation Interface Protocol (OIP) and Functional Design Specification were reviewed and analysed for any discrepancy.

   Starting instructions for the SPS pumps were reviewed.

   Filter operation in high flow was also reviewed.

4. **Details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of the incident**

   As per the OIP the Plant and networks staffs will co-ordinate maintenance of both the SPS and plant tanks and equipment which would impact on the plant flows.

   If you have any further request please direct them to Sunietha Katupitiya, Assurance Manager,
   sunietha.katupitiya@sydneywater.com.au and she will coordinate any further information.

   Yours Sincerely

Greg Cawston
Manager, Treatment
Operations Division
Sydney water Corporation

NSW EPA

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Our reference: DOC12-51743
Our contact: Frank Garofalow 9995 6804

Mr Eric De Rooy
General Manager Service Delivery Division
Sydney Water Corporation
PO Box 399
PARRAMATTA NSW 2124

Dear Mr De Rooy

I refer to a dry weather bypass that occurred at Sydney Water Corporation's (Sydney Water) Riverstone sewage treatment plant (STP) at Bandon Road, Vineyard on 10 October 2012. The bypass resulted in approximately 4000 litres of effluent not being fully treated and discharged into Eastern Creek (the incident). The STP is part of the Riverstone sewage treatment system that is regulated by the Environment Protection Authority (EPA) under environment protection licence 1796 (the licence).

Sydney Water self reported the incident to the EPA on 11 October 2012 and submitted an incident report on 7 November 2012. The incident report states that on the date of the incident, Riverstone STP received a high dry weather inflow of sewage from the reticulation system following the return to service of sewage pumping station (SPS) 564, that had been previously offline for maintenance works. At the time of receiving this increased flow, the STP's balance tank, which is used to regulate incoming flows, was offline for maintenance. As a result the STP exceeded its design capacity and the sewage disinfection process was compromised for approximately six minutes, resulting in the incident.

The EPA's investigation of the incident concluded that the incident was caused by a lack of communication between Sydney Water's reticulation network staff and STP staff in relation to the maintenance works occurring at the SPS and the STP.

As you are aware, licence condition O2.1 (b) states that *"All plant and equipment installed at the premises or used in connection with the licensed activity must be operated in a proper and efficient manner."* The EPA considers the incident to have been preventable had Sydney Water implemented appropriate procedures that would have facilitated communication between the reticulation network and STP divisions regarding maintenance activities. Based on the evidence provided, the EPA considers that the incident constitutes a breach of Condition O2.1 (b) of the licence.

In this instance, the EPA considers that it is appropriate to issue Sydney Water with a formal warning in relation to the breach of this licence condition. If further breaches of the licence occur, the EPA may take into account this formal warning in determining the most appropriate regulatory action, such as the issuing of a penalty notice or the commencement of a prosecution.

The EPA is pleased to note that Sydney Water has reviewed a number of internal procedures for the Riverstone sewerage catchment, including its Operation Interface Protocol (OIP), to prevent or mitigate against a recurrence of the incident. However, as a result of the incident, the EPA has concerns about whether OIPs are being systematically implemented for all Sydney Water sewerage catchments for activities within the reticulation system and/or the STP that could affect plant flows. The EPA would like to

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discuss this issue further at the next Joint Operational Group meeting in order to confirm that Sydney Water's procedures, including OIPs, are being actively and appropriately applied to all its systems.

If you have any questions or wish to discuss this matter, please contact Frank Garofalow on 9995 6804.

Yours sincerely

10/5/13

FRANK GAROFALOW
Manager Metropolitan Infrastructure
Environment Protection Authority

From: CAWSTON, GREG
To: YOUNG, KEVIN; DE ROOY, ERIC; GAMBLE, SANDRA
Cc: STARKE, ALANA; KATUPITIYA, SUNIETHA; BARTON, CRAIG; MELVILLE, GREG
Subject: Potential EPA Prosecution Malabar- Good News
Date: Tuesday, 7 May 2013 1:01:57 PM

Hi Everyone
I had a call from Frank Garofalow from the EPA re the investigation they were conducting into the cliff face by-pass at Malabar WWTP mid last year that was triggered by the Victorian earthquake.
Frank has analysed the detailed report we submitted and believes that there is no way we could have anticipated the failure of an individual spring within an electrical switch and therefore is recommending that the EPA close all investigation into the matter.

Cheers Greg

Greg Cawston | Manager Treatment
Service Delivery | Sydney Water
Treatment HQ, Prospect Reservoir,
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M 0418 466 685
email address | greg.cawston@sydneywater.com.au