

Kings Lynn WRC Wet Weather Action Plan

Guidance

The STC Manager will complete this document.

The document should be stored in Hawk applying the naming convention: Site Name WRC Reason (as per title above) Action Plan and metadata as appropriate

When revising the document do not change the file name, to ensure links are not broken.

For sites, which have known problems, this document should be triggered by telemetry alarms or breaching action limits following on-site samples.

The document should contain site-specific instructions.

Copy to be controlled and retained on site and reviewed annually as a minimum, or when there is a change on site or in compliance status.

Record of Amendments

Date of Issue	Reason for change	Amended by
08/06/23	Site has struggled when more than FFT through the works	S Spencer
22/02/2024	Updated from lessons learnt	S Spencer

Has Tactical Toolbox been updated to record that Action Plan in place?	Not Yet, document not complete
Is there an N Alarm?	No
Save completed Action Plan in: Hawk Enterprise > Corporate Documents > Asset > Operational Documents > Water Recycling Action Plans > Site Issues Action Plans	

Site: Kings Lynn

Site consent limits (e.g. Ammonia / Solids):

OSM

Suspended Solids 100mg/l (UT None)
BOD 50mg/l (UT 100mg/l)
NH3 No ammonia consent
P No P consent

UW

BOD 25mg/l (UT 50mg/l)
COD 125mg/l (UT 250mg/l)
P No P consent
DWF 21600m³
FFT 64800m³ per day or 750 l/s

Relevant alarms:

- More than 600 l/s at inlet
- Low Aeration DOs
- FST Blankets

Overall Site Controls:

- Site MLSS to be run between 2200 and 2800
- Site SSVIs to be controlled below 120

Key telemetry checks to be carried out in response to alarm (what could indicate the root-cause of the problem?):

- Check Blowers operation and aeration pressure set point is at least 420
- Check inlet / incoming flow volume.
- Check Inlet flow meter

Action required by Wholesale Services in response to alarm (response to Hi FE or Ammonia levels):

- Either alarm to be deployed as per action code no matter what.
- Check Inlet flow, if more than 600 l/s, check someone has been deployed to site to follow the Wet Weather Plan.
- If Wet Weather Action Plan to be followed, second person to be called out, out of hours, to assist.

Action to be undertaken by Bioresources Technician on site in response to Inlet Wet Well Alarm:

- For any Higher than 600 l/s, any high FE wet well alarms or any blanket alarms, whole site should be checked for issues.

- If inlet flow higher than 600l/s then Wet Weather Plan to be followed
- Samples to be collected and spot samples done when getting to site.
- Check SCADA to see what plant is running, DO levels and any alarms.
- Make adjustments to plant based on SCADA readings and spot samples.
- Check flows at Inlet and FE and if flow to Storm Tanks.
- Blanket levels on all FSTs (1-4) to be checked regularly
- Check all RAS pumps on and pumping at 100% (may need to be in hand on final one).
- Check flow balance between all 4 FSTs and adjust as necessary to balance blankets across all 4 tanks (If all 4 in service)
- Adjust RAS valves to return more RAS back to Aeration.
- If needed and one out of service, put flow back on to out of service FST.
- **Turn of Storm Return pumps 1 and 2.**
- If needed, put the out of service PST back in service.
- If needed, stop return liquor pumps on STC to lower flows through the works above FFT. This may require stopping centrifuges and may stop Monsal process depending on levels in Post Dig Tank. If Monsal pause lasts longer than 6 hours, arrange tankers to take loads out of each reactor to stop over pressurisation due to foaming. **If this action is taken then WROL need to be advised and imports scheduled for the next day be reduced.**
- Ensure all FE Pumps are on (final one may need to be in hand)
- Cooked solids to be carried out if it exceeds solids action limit.
- Consider adjusting SAS flow through to belts depending on MLSS)
- Interstage sampling to be done, if needed.
- In hours report and escalate findings to Lead Bioresources Technician, SDS, TM and DM. If out of hours, call Standby Manager and update OMC. Also regularly email readings for samples and blanket levels to TM and Lead Bioresources Technician and upon leaving site email situation on site and any final readings and any actions which need picking up in the morning.
- Once Blankets back under control, ensure RAS valves, Pumps in hand put back to normal operation.
- **Once flow reducing and going to go under FFT and stop discharging to the Storm Tanks, turn the Storm Return Pumps 1 & 2 back on in auto.**
- Ensure once flow and sample results have returned to normal. Any tanks put in service are removed from service, drained and cleaned

Ongoing actions

- Weather trends and forecasts will be closely monitored and when wet weather is forecast proactive review of this plan with Lead Bioresources Technician and standby people