waterwatch scotland

REPORT ON INVESTIGATION OF COMPLAINT:

Complainant:	**Not Disclosed**
Company:	**Scottish Water**
Case Ref:	
Date:	**29th April 2009**
Author:	**Gary Womersley, Chief Officer and Jim Black, Head of Customer Support**

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Waterwatch Scotland (WWS) is the national complaints handling authority for all domestic and non-domestic water customers and customer representative body for the water industry in Scotland.

WWS is independent of Scottish Water, government and other water/sewerage service providers. Our role is to:

- Investigate Complaints
- Represent Customers' Views & Interests
- Influence Policy
- Inform & Advise

WWS' responsibility for second-tier complaints handling means that WWS can take forward individual customer grievances against Scottish Water or other providers.

WWS can also make statutory recommendations to Scottish Ministers, Scottish Water and other service providers, and industry regulators: Scottish Environment Protection Agency (SEPA), Drinking Water Quality Regulator (DWQR) and the Water Industry Commission for Scotland (WICS).

From time to time, WWS receives complaints which are of such importance or have a public-interest impact beyond the specific complaint itself, that WWS will issue a formal report on the complaint and greater issues raised.

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In addition to the making of such formal reports and the findings and recommendations made, a key role of WWS is to continue to work to ensure that such recommendations are adopted in the interest of customers to mitigate and prevent future occurrences.

Investigation of Complaint by "the Complainant" against Scottish Water (SW).

Factual Background:

In 2006, WWS received formal complaints from local residents regarding the operational failure and associated issues in respect of the waste water treatment works and associated infrastructure (WWTW) serving Campbeltown, Argyll & Bute, and the adjacent environs ("Campbeltown").

The ensuing investigation constitutes the longest ever undertaken by WWS. As well as the timescales involved in the history of the complaint being long (almost a decade), many of the subjects covered are inherently complex and convoluted, requiring further discussion incrementally with various relevant stakeholders and complainants, as further information and counter-claims became apparent. The amount of documentation produced in the course of the investigation has been copious and often very detailed, already encompassing formal (1st-tier) complaints against 3 industry stakeholders. The following Factual Background is intended to be a summary of the evidence gathered during the course of the investigation and pertinent points that form the context on which WWS Findings and Recommendations will be made.

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1. In circa 2000, West of Scotland Water (WOSWA) elected to replace and upgrade the WWTW that served Campbeltown. Campbeltown Loch itself holds various classifications such as Shoreline Waters and Recreational Waters and (from 2005) Shellfish Production (Harvesting) Area.

2. The key driver behind WOSWA's replacement/upgrade of the WWTW serving Campbeltown was the introduction of more onerous legislative and regulatory requirements. Prior to this there had been sewage discharges into Campbeltown Loch, at Kinloch Park Pumping Station (KPPS).

3. The original Campbeltown WWTW solution designed by WOSWA was for a conventional bioreactor plant, to be located at Slaty Farlan, a new pumping station at KPPS, and a piped Combined Sewer Overflow (CSO) which would discharge near Macringan's Point, that is outwith Campbeltown Loch.



4. Notwithstanding the original intention of and design by WOSWA, the actual solution installed by WOSWA comprised a "non-conventional", technically embryonic Membrane Bioreactor plant (MBR) solution as part of the new (Campbeltown WWTW) at Slaty Farlan, with a main CSO and emergency overflow discharge (EO) at KPPS, within Campbeltown Loch. The MBR solution was claimed to have negated the need for the CSO at Macringan's Point and to have resulted in a £1.2 million saving.

5. Shortly after the installation of the new Campbeltown WWTW facility in late 2001, Campbeltown started experiencing significant sewer flooding events.

6. Subsequent investigations by WOSWA, Scottish Water (SW) – who succeeded WOSWA post April 2002 – and Scottish Environment Protection Agency (SEPA) confirmed that there was a material insufficiency of capacity within the chosen MBR plant solution and that the Campbeltown WWTW could not cope with the required volumes of waste water.

7. It quickly became evident that the inflows of waste water into the Campbeltown WWTW, from storm water and surface water in particular, had been greatly underestimated by WOSWA/SW (e.g. dry flow by circa 100%, surface water by minimum 300%), meaning that the Campbeltown WWTW could not accommodate the necessary waste water flows.

8. The rationale and logic behind the operation of the novel MBR plant solution was fundamentally flawed, even in respect of the erroneously under-estimated waste water levels as stated by SW. In short, when the MBR plant solution requires to operate at capacity for any time, the filter membranes quickly become occluded/blocked. Such blockages prevent further waste water reaching and/or being treated by the Campbeltown WWTW. (Such blockages also require to be removed manually, by taking a tranche of filter membrane cassettes off-line, which again reduces the capacity of the WWTW). These issues were further compounded by SW installing inlet screens which differed in size and were contrary to the manufacturers' recommendations. Over the period investigated, SW have never acknowledged that the plant was fundamentally flawed, but rather have relied on other reasons why it was failing to comply, e.g. extreme occurrences of weather, or disputed the degree of its non-compliance.

9. All waste water either restricted from reaching the Campbeltown WWTW by such membrane occlusion and/or the lack of capacity of the Campbeltown WWTW to cope with the actual flows concerned, was automatically discharged into Campbeltown Loch via the CSO at KPPS.



10. Remedial work undertaken at that time by WOSWA/SW included new pumps being fitted (to/at KPPS) and some additional membrane cassettes being added to the MBR plant solution. These works failed to prevent further sewer flooding events within Campbeltown.

11. Further remedial works by SW, including the lowering of a weir and the installation of a penstock into the dividing walls between the storm and foul wells at KPPS did reduce the number of sewer flooding events in Campbeltown, but also resulted in an increase in the number and volume of spills of untreated sewage flowing into Campbeltown Loch at the CSO at KPPS. These remedial works were intended to be temporary.

12. In the intervening period, (that is the period between the MBR plant solution being installed, found not to be operating as it should, and solutions being sought to ameliorate such failure to operate) additional nearby settlements from the Machrihanish, Stewarton and Drumlemble sewer catchment areas were connected to the Campbeltown WWTW by SW.

13. As a result of the increase in spills of sewage into Campbeltown Loch at the CSO at KPPS, in 2004 SW proposed to move the CSO to a differing part of the Loch (at a point within Campbeltown Loch near the Nato Jetty). This was opposed by the local community. SW therefore sought to relocate the CSO at Kildalloig Bay, which SEPA refused to allow, on the grounds *inter alia* that the CSO would discharge into Shoreline Waters, Recreational Waters and Shellfish Hygiene Waters, and would be unlikely to be compliant with UWWTD, being within Campbeltown Loch at Kildalloig Bay.

14. In 2004, the Complainants, in addition to pursuing complaints with SW, SEPA and the Local Authority (LA), raised a formal complaint with the Water Industry Commissioner for Scotland (WIC) on the basis of what they referred to as the illegality of the latest SW proposals. Following the raising of the issue with WIC, it was confirmed at a public meeting in Campbeltown that attempts would be made to find further funding to allow any new CSO to discharge near Macringan's Point, i.e. outwith Campbeltown Loch.

15. Following the Complainants' dissatisfaction with further engagement with WIC, a formal complaint was made re WIC, ultimately to the Scottish Public Services Ombudsman (SPSO). The SPSO found that the complaint made by the Complainant had not been dealt with by WIC in accordance with the relevant procedures and found in favour of the Complainants on this basis. However, SPSO did not investigate the actual initial basis of the complaint against the WIC.

16. In November 2006, SEPA served SW with an Enforcement Notice requiring SW to ensure compliance with its licence condition which required a pass forward rate of 75l/s before a discharge of sewage from KPPS.



17. In 2006/07, SW proposed a new remedial works for Campbeltown which envisaged removing significant inflows of storm and surface water, moving the main CSO from KPPS to Slaty Farlan, providing storage capacity and new chemical treatment at the new Slaty Farlan CSO if required.

18. A three phase approach was adopted for the remedial works by SW. Phase 1 envisaged the Campbeltown WWTW brought up to compliance with its regulatory consents; Phase 2 envisaged the construction of a new pumped CSO from KPPS; and Phase 3 envisaged, if deemed required by SEPA, chemical treatment at the new CSO discharge point at Slaty Farlan.

19. SW sought to proceed with Phase 2 even though its success was based on statistical data, modelling and assumptions in respect of Phase 1 compliance that had been proved to be either not compliant or not achievable, and/or had been disputed by the Complainants as not complying with the relevant legislative and regulatory requirements. SW disputed the complainants' analysis and criticism of the operating regime of the Campbeltown WWTW and the integrity of the statistical data associated with this. SW therefore continued to seek SEPA's approval to enable Phase 2 to proceed.

20. In November 2006, SW submitted two applications to SEPA for licences under the controlled Activities Regulations (CAR). The first was for a new authorisation for an intermittent discharge of screened sewage effluent to be pumped forward and discharged via a new CSO at Slaty Farlan. The second application was to vary the existing licence for KPPS to extend the outfall for a reduced frequency of storm sewage discharge.

21. SEPA had determined to grant both applications but, following representations, Scottish Ministers decided initially (in Nov 2007) to direct that both of SW's application be referred to Ministers for determination.

22. Due to SEPA taking more time than it is allowed to make its decision as to the determination of the application for variation of the KPPS licence, SW intimated to SEPA that it would consider that SEPA had made a "deemed refusal" of its application for the variation and appealed against such a deemed refusal. At the same time SW withdrew its other new authorisation application, and subsequently Ministers issued a further direction revoking their original direction for the application to be referred to them for determination.

23. As part of its investigations, WWS visited Campbeltown WWTW – whereupon the inherent problems with the MBR plant solution and the degree of labour intensity required to physically/manually "derag" the MBR plant solution quickly became apparent.



24. In Aug 2008, SW intimated that it was withdrawing its appeal of SEPA's deemed refusal of its application for variation at KPPS. SW's reason for withdrawing their appeal against SEPA's deemed refusal, was stated primarily so as to "comply with developing regulatory requirements".

25. In November 2008, following a submission by SEPA of a report to the Crown Office Procurator Fiscal Office Service, SW pled guilty to a charge that on various dates it had discharged untreated sewage into Campbeltown Loch in contravention of its conditions of its licence for KPPS. Sentence was deferred on Scottish Water until May 2009.

26. In November 2008, SW submitted new engineering proposals to SEPA in respect of the Campbeltown WWTW. Such proposals included increasing the capacity of KPPS, extending the outfall from KPPS and installing additional treatment capacity at Slaty Farlan WWTW. Reasons given for such works being needed included that the Slaty Farlan WWTW had been in operation since 2001 and that some parts needed capital maintenance and replacement.

27. In January 2009 SW confirmed that the gravity return valve between the storm tank and foul well at KPPS had now been sealed. SW also confirmed that work had commenced on Phase 1 and 2 of the planned improvements for Campbeltown.

28. In January 2009 the Local Authority (LA) served an Abatement Notice on SW, requiring SW to remove solid sewage material from the surface of Campbeltown Loch on the occasions when SW discharges from the CSO at KPPS.

Findings:



1. WOSWA's design for the Campbeltown WWTW and the actual WWTW inherited by SW were inherently fundamentally flawed to such a degree that it could never have been classed as fit for purpose.

2. The final design chosen by WOSWA was unduly influenced by the small footprint of its existing land holdings at Slaty Farlan. WWS also finds that WOSWA's decision was unduly restricted by WOSWA unwillingness to re-enter land negotiations to facilitate the necessary extension of its original design for a conventional bioreactor plant.

3. The contractual and procurement arrangements entered into by WOSWA for the MBR were commercially naïve, particularly with regards to the relative and accepted novelty of the proposed solution.

4. The capacity of the WWTW was insufficient and it quickly became blocked, in turn preventing further waste from reaching the WWTW.

5. The flaws in the initial plant design were compounded by the degree to which the flow of waste water that the WWTW would have to treat was under-estimated.

6. The material increase in sewer flooding experienced by Campbeltown was a direct result of the inability of the WWTW to operate to the level intended/required, due to the flaws in the rationale behind the design and the underestimating of the actual amount of waste required to be treated. Whilst in such a context any increase in rainfall might not have helped, the sewer flooding at Campbeltown was <u>not</u> caused by what was loosely termed by SW as the WWTW "experiencing more extreme weather patterns", *per se*.

7. The length and number of sewer flooding incidents suffered by Campbeltown are unacceptable.

8. In absence of any appropriate interim solutions by SW, the situation at Campbeltown was exacerbated yet again by SW connecting the Machrihanish, Stewarton and Drumlemble sewer catchment areas to the Campbeltown WWTW.

9. SW's initial attempts to re-engineer a temporary solution, whilst removing sewer flooding from Campbeltown, led to a deliberately designed increase in sewage spills at the head of the loch at KPPS. WWS therefore finds that KPPS was engineered to operate as a CSO to supplement/ameliorate inadequate treatment at the WWTW.



10. In respect of the temporary solution, WWS finds that the extent and duration of untreated sewage being discharged into Campbeltown Loch at KPPS as ultimately avoidable, unacceptable and far exceeding the envisaged temporary nature of the solution.

11. SW subsequent proposals to improve upon the frequency and quality of sewage spills were based on (as a minimum) *prima facie* inadequately robust data.

12. SW's subsequent proposals appeared to be primarily based on lowest cost and its limited land holdings, rather than seeking to help guarantee compliance. Ultimately this approach is considered to have been more expensive over the piece and not in the specific or general customers' interest.

13. SW has regularly submitted data which when challenged was found to be inaccurate. SW has inappropriately continued to rely on this data in subsequent debates.

14. Whilst SW cannot be criticised for inheriting a WWTW suffering from fundamental design flaws and statistical data on the originally estimated flows, it is considered that SW failed, in the following regards:

    (i) SW continues to deny the fundamental design flaws in the WWTW design, despite constructive and real knowledge to the contrary;

    (ii) In denying that the WWTW design was fundamentally flawed, SW attributed a large proportion of culpability on the vagaries of adequate water modelling. Whilst it is accepted that such water modelling by its nature can never be an exact science, the degree of difference between the originally estimated and real data required, at the very least, new modelling to be done.

15. SW's communications with its customers and stakeholders can reasonably be perceived at times as an attempt to obfuscate and deliberately mislead, its general engagement with parties often being cursory.

16. WWS considers that, were it not for the persistence of the Complainants in consistently challenging both SW and SEPA, the current position at Campbeltown would be even worse.



17. The Complainants have engaged considerably both SW and SEPA, through their regular challenging of both bodies; their requests for information (via Freedom of Information and Environmental Information legislation); their own ability to robustly challenge the corporate stances of both bodies at various stages; their use of every appeal stage over the years of every planning or regulatory consideration of the Campbeltown WWTW; and their making of formal complaints against both bodies. Both SW and SEPA would appear to have struggled to cope with such a dynamic, to various degrees, over the course of the greater complaint.

18. WWS finds that in seeking to promote their complaint, there has been public confusion as to the relevant roles of the planning and regulatory consent regimes. This has been confusing for the public, has unduly prolonged timescales, has been more expensive for all parties concerned and has not been in the interests of in any parties or stakeholders.

19. It is considered a reasonable assumption that SW approach to many aspects of Campbeltown WWTW failure to operate was brought about by a corporate cultural unwillingness to admit the real reasons for the WWTW failure for fear of criticism (even though originally failings lay solely with WOSWA). SW therefore became more complicit as it maintained its original stance and became further entrenched in its position.

20. SW has inappropriately tried to discredit the concerns of the Complainants and has not acted in accordance with the principles associated with a public body.

21. SW has failed to keep WWS (and SW's Customer Service Section), who it is aware were undertaking a formal 2nd-tier investigation, fully aware of all developments. This is viewed as indicative of major communication failures between the remainder of SW and its own Customer Service section and WWS, and also of the lack of general seriousness given to the greater issue.

22. WWS finds that SW has failed to adhere to the accepted protocols with WWS in how it seeks to deal with/progress any which is subject to a complaint by WWS. This is viewed as a lack of seriousness being attributed to the complaint by those parts of the organisation, other than Customer Service.

23. SW's entire handling of this matter has been inefficient. The time associated with this issue, the continued associated costs and the number of staff involved (not only in SW but also Scottish Govt, SEPA, WWS, WICS, etc) have been unprecedented and not in any customers' interest. SW has perpetuated such failings by failing to adopt more appropriate courses of action, sometimes deliberately, in apparently believing its own attempts to inappropriately marginalise the complainants.



24. SW stance in blaming other factors for the WWTW failings, notwithstanding its real/constructive knowledge, has perpetuated the ultimate failings of the plant, been unnecessarily piece-meal and considered ultimately to have:

    (a) been more costly;
    (b) been paid for "twice" by customers; and
    (c) been done to marginalise the legitimate concerns of the Complainants

25. SW refusal to accept publicly the Campbeltown WWTW unfitness for purpose falls far short of the required standards expected from public sector bodies in Scotland.

26. SW is currently operating KPPS in breach of its CAR licence and is therefore considered to be at risk of operating a WWTW which could be reasonably regarded as in breach of the UWWTD.

27. The current operation of the WWTW is not efficient, requiring an unreasonable over-reliance on manual labour to ensure the very minimum of service is delivered. This is indicative of fundamental design flaws in the entire scheme.

28. The commitment and professionalism of the actual SW operatives at the WWTW itself is not in doubt. Indeed, WWS view is that, were it not for the degree of knowledge and commitment of such operatives, the actual effects from the WWTW inherent failures would have been far worse.

29. Until relatively recently, SW has failed to work proactively with the LA in regard to removing inflows to the system over which it does not have statutory duty. In particular SW has failed to promote innovative and collaborative solutions with the LA in favour of taking a stance primarily of dismissing the likelihood of further assistance from the LA. Recent engagement with the LA, in which the LA has expressed its willingness to assist with the removal of surface water, merely re-emphasises early failings.

30. WWS finds that present arrangements in respect of responsibility for surface drainage are in general confused, not transparent and not in the general interests of customers.



31. WWS finds that SW continues to attribute the need for further works at Campbeltown WWTW to the fact that it has been in operation since 2001, requires capital maintenance and replacement, and needs to comply with developing regulatory requirements. This is ultimately misleading, lacks the necessary level of transparency, and, worryingly, indicates that SW has still to acknowledge the real issue affecting Campbeltown.

32. WWS finds that due to the approach taken by SW (and SEPA) in respect of the whole complaint to date that any new proposed solution which does not finally correct previous flow data errors or accept and acknowledge the inherent fundamental flaws with the design of Campbeltown WWTW, and yet still seeks to discharge within Campbeltown Loch, will not give Campbeltown sufficient security as to the merits or workability of any proposed solution.

33. WWS finds that whilst at times an incremental, (least possible cost) solution would be the accepted approach to finding an engineering solution initially, that due to the duration problems have had to be suffered by Campbeltown to date, it is reasonable for all relevant stakeholders to work together, subject to fixed/tight timescales, to seek to bring about a final solution for Campbeltown which ensures legal compliance and seeks to give Campbeltown an overt element of security as to future compliance.

34. WWS finds that the duration and nature of problems still being experienced by Campbeltown, notwithstanding the timescales involved, are reflective of a failing of the water industry in Scotland as a whole to be able to remedy such historic failings.

35. WWS finds that both SW and SEPA have failed adequately to ensure, at key phases of the complaint being escalated within their own organisations, that such complaints were subject to fresh independent appraisal. While it might have appeared that the complaint was being escalated within SW, ultimately it was being dealt with by officers who had dealt with it originally.

36. WWS finds that SEPA could have taken a more robust approach more quickly with SW. It is accepted, however, that, primarily in good faith, SEPA have sought to engage responsibly with SW who, in turn, are considered not to have engaged in general with the level of seriousness the issues involved in the complaint merited. WWS finds that this dynamic has been further compounded by SW seeking only to give effect to any minimum requirements stated by SEPA, rather than seeking to concentrate on getting the WWTW up to general legal compliance in its own right. WWS finds that this had led to the assumption that SW were in general being treated more favourably and therefore less robustly than would have been the case had the party concerned not been SW.



37. WWS finds that underlying issues would appear, of late, to have been subject to a potentially different – more appropriately robust – approach from both SEPA and SW – which is attributed primarily to the increase in direct involvement by both Chief Executives. Whilst WWS welcome this dynamic, it merely reaffirms that matters could have been dealt with more robustly and expeditely by both SW and SEPA to date.

38. WWS finds that SW have yet to provide SEPA with a new formal application as requiring a greater, and hopefully final, focus to be placed on the greater issue by SW.

39. WWS finds that the unduly protracted position affecting Campbeltown is unlikely to have been allowed to occur in later regulatory periods (e.g. Q&S III a or b) due to balances and checks, systems and processes and general increase in robustness introduced by all stakeholders in the formulation and monitoring of current regulatory regimes. That the position at Campbeltown has not been able to benefit from such safeguards due to the date of commencement of initial works is considered not in any party's interest. The ultimately undefined requirement for an actual output from WOSWA/SW has not been in the customers' interest.

Recommendations:



1. SW issue a full unequivocal apology regarding the failings of Campbeltown WWTW, its inability to accept and remedy these problems, and for the detrimental impact this has had on Campbeltown's community. This apology must

   a) Be approved by WWS prior to its publishing
   b) Be published on SW website and via an advertisement in the local press
   c) Be provided separately and in full to each Complainant

2. In respect of recommendation 1c, SW further acknowledge and apologise specifically for its previous attempts to marginalise and discredit the Complainant, confirming that this behaviour is not acceptable and will not be repeated by SW.

3. SW convey its new proposals for addressing all the failings with the present WWTW identified in this report with WWS, SEPA, the Complainants and the broader community. SW should ensure that it consults extensively and responds to any further concerns in respect of these proposals timeously, comprehensively and transparently.

4. In future, SW consult with SEPA early in the process for any new capital investment programme which will require SEPA's final approval. SW should enlist SEPA's assistance at the earliest opportunity to assist in determining whether any investment in likely to deliver a compliant solution. Notwithstanding this, SW will require to ensure that its own internal processes are reliable and produce robust data on which to base any decision by it or SEPA, and by cognisance of the ultimate onus for legal compliance lying with SW.

5. SW review and improve upon its co-operation with Local Authorities in respect of surface water management. It should apply a more consistent approach throughout its operational areas, sharing costs, expertise and manpower when possible to deliver co-ordinated and comprehensive solutions.

6. SW review and improve upon its internal communication processes between its operational staff, asset management staff, public relations staff and its customer service staff.

7. SW ensure that when an issue is subject to a WWS investigation all appropriate staff are made aware of the fact, and that any developments which may impact on the complaint are communicated in the first instance to SW Customer Relations staff for onward transfer to WWS, on all occasions.



8. SW and SEPA create an internal independent review mechanism which considers their respective organisations' approach to an issue which has generated a major complaint. This review mechanism would mitigate the risk of complaints being perpetuated by individuals potentially involved in the cause of the complaint. WWS further recommends, in respect of SW, that this review body should sit within SW current Customer Service directorate and that it should be adequately empowered and resourced to discharge its functions appropriately.

9. SW continue to work with WWS in respect of developing and auditing its Consultation Code and associated processes.

10. Whilst noting current proposals within the Flooding Bill, Scottish Ministers should ensure that current and future legislation ensures greater clarity in respect of responsibilities for surface water management and requires, where necessary, greater co-operation between relevant Authorities.

11. Scottish Ministers consider reviewing and rationalising the current planning application and regulatory consent processes to minimise public confusion, reduce cost/expense, improve turnaround times and extend the remit of the Planning Authority to consider whether any medium/large capital investment project is deemed fit for purpose and likely to meet its objectives/compliance.