Studies In Work, Health and Safety Consultants to the Pool Industry

Refurbishment of pool and plant at Stanley Leisure Centre.

Preamble:

The swimming pool and plant at Stanley leisure centre, Stanley, East Falkland has reached a state of disrepair and is now at the stage where a full refurbishment of the pool and the pool plant should be undertaken before the life span of this pool and plant deteriorate to a level where it would effectively be beyond repair. This report is designed to give options that will extend the life of the pool and plant for a further twenty years.

Terms of reference

Allen J Wilson FISPE, Tech IOSH was commissioned by the FI government to prepare this report, following an inspection of the facilities in February 2012. He was accompanied on the inspection by Steve Dent, Projects Director and Louise Taylor, Head of Leisure, both employees of the FI government.

Allen Wilson has worked for over thirty years in this industry. He is the author three books on pool and plant and is the ISPE representative on PWTAG.

The information used in this report is taken from the UK's lead bodies:

Pool Water Treatment Advisory Group (PWTAG)

Institute of Swimming Pool Engineers (ISPE)

BS PAS39 (2003)

BS 15288 (2010)

HSG179 Managing Health & Safety in Swimming Pools

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Findings

Pools

On both tiled pools the grout has virtually disappeared.
The stainless steel steps in and out of the pools have a top step where a user's foot could slip behind, causing injury.

Plant and equipment

The filter was approximately thirty years old
The pumps were in poor condition (It is believed they have now been replaced)
The additions of chemicals was by manual control.

Conclusions

Pools

If the grout is not replaced or a liner fitted to the pool, it is extremely likely that the tile adhesive will fail and further tiles will continue to become detached, resulting in cuts to bathers from exposed sharp edges. When one tile falls out, the four surrounding it, come under attack. As the water will then penetrate behind the tiles, it is likely that poor hygienic condition will result. The concrete structure of the pool will also become vulnerable to attack. It is likely that within a few years, this pool will become unusable and even structurally unsafe.
The top steps represent a controllable hazard

Plant

The filter should be opened and the filter media removed allowing the interior to be fully inspected.
The manually dosed disinfection, ph control and flocculation is a hazardous operation

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Recommendations

It is essential that the decline in the condition of the pools are arrested
It is estimated that if these conditions are allowed to exacerbate further the pool will become unusable within a few years. Also in the interim the FI have no defence again claims for injuries sustained from sharp edges or poor hygienic conditions within the pools.
Furthermore the method of adding chemicals fails to comply with all lead bodies standards and UK legislation in H&S and the majority of countries in the world

It is advocated that the following work is undertaken as a matter of some urgency.

A. That both pools should be drained and cleaned. All missing tiles replaced and the pool to be re-grouted using an epoxy grout. The alternative is to repair and replace tiles and fit a vinyl liner to each pool. Time scale: approximately four weeks. Life span: Liner ten years, re-grout twenty years
B. That double top steps are fitted to prevent bather's feet slipping behind when entering and leaving pool. These are basically becoming standard throughout Europe Time scale: one day. Life span: twenty years.
C. Due to the age of the filter it should be stripped and cleaned internally, coated with an epoxy material and the media changed
D. Time scale: two weeks Life span; minimum of ten years.
E. Due to the hazards associated with chemical handling an automatic dosing system should be installed integrating a flocculant dosing unit Time scale: one week. Life span: Minimum of ten years

To further improve conditions it is strongly recommended that the following work is undertaken

F. Install a salt chlorination system Time scale: one week. Life span: Minimum of ten years
G. Salt chlorination would benefit in as much as it would:
   Removing chlorine donor transporting issues
   Use common accessed salt instead, a safer material
   Significantly reducing on site handling and storage hazards
   Lower running costs & maintenance
   Provide attractive looking and feeling water

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Integrate automatic dosing control

H. That an ultra violet unit is installed, reducing the need for chlorination and reducing the by-products of chlorination. The best system would be a salt chlorination system together with Ultra violet. This would mean that the level of chlorine in the pools could be reduced by up to 50%. Time scale: one week Life span: Minimum of ten years

Alternative to items E,F & G

Adapt existing disinfection and pH system to automatic control, including flocculation. Life span: Minimum of ten years

Note: all the work could be carried out within a four week closure period

Environmental effects

Large improvement

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