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IEC 61508 Functional Safety Capability Statement

Hochiki Europe (UK) Ltd CHQ and YBO Wall and Base Sounders and Beacons

Manufacturer:	Hochiki Europe (UK) Ltd Gillingham Business Park, Grosvenor Rd, Gillingham ME8 0SA
Product:	Wall and Base Sounders and Beacons
Model:	CHQ-WS2, CHQ-WSB2, YBO-BS, YBO-BSB2, YBO-BSB2/WL, YBO-BSB2/RL, YBO-BSB2 (WHT)/RL, YBO-BSB2 (WHT)/WL, CHQ-WS2(WHT), CHQ-WS2/SIL, CHQ-WSB2/RL, CHQ-WSB2/WL, YBO-BS(WHT), YBO-BS(WHT)/SIL, YBO-BSB2(WHT)/RL/SIL, YBO-BSB2(WHT)/WL/SIL
Application:	Low Demand Mode Safety Instrumented Function
Safety Function:	Upon detection of fire condition, alarm is initiated via the Sounder / Beacon (Sensor and logic subsystems not part of this analysis)
Applied standard:	IEC 61508 Ed2 2010 Parts 1-3
Systematic Capability:	Not Assessed
Applicable report:	Environmental Resources Management Ltd Report: D004_SV001 rev. 6
Assessment Route:	1_H
Hardware Fault Tolerance:	0
Type:	B
Application restrictions:	Host system will be configured to detect and alarm on loss of communications to the detector (loss of response to polls) Manual function tests are carried out frequently (i.e. weekly) and suitable documented, reviewed and audited

Model No.	λ (/hr)	λDU (/hr)	λDD (/hr)	λDD Manual Test (/hr)	λS (/hr)	SFF
CHQ-WS2	2.6E-07	2.0E-08	2.0E-08	1.8E-07	6.0E-09	92%
CHQ- WSB2	3.8E-07	3.2E-08	3.2E-08	2.9E-07	6.4E-09	92%
YBO-BS	2.6E-07	2.0E-08	2.0E-08	1.8E-07	6.0E-09	92%
YBO-BSB2	1.1E-06	1.1E-07	1.1E-07	9.5E-07	6.0E-09	91%

IMPORTANT: It should be noted that this assessment considers only the Hochiki Europe (UK) Ltd, CHQ and YBO Wall and Base Sounders and Beacons. It does not cover opening and closing

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time requirements and a random hardware failures assessment must be conducted for the entire safety function for each application as per the appropriate Safety Requirements Specification.

The Hochiki Europe (UK) Ltd, CHQ and YBO Wall and Base Sounders and Beacons have been assessed and are considered capable for use in a low demand mode safety function up to (and including) SIL 2 with regards to random hardware failures and architectural constraints.

Note 1: The SIL of a complete SIF (sensor, logic solver and final element subsystems) must be verified to calculate the required Probability of Failure on Demand (PFD) / Probability of Failure per Hour (PFH), considering any redundancy, Proof Test Interval (PTI), Proof Test Coverage (PTC), Mission Time and Mean Time To Restoration (MTTR) for all elements included in the SIF. Each subsystem should be verified to ensure compliance with the minimum HFT requirements.

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