Asset management & Zurich Risk Engineering: A mutual ambition

Let's look at this very simply; your assets make your business money, when your assets don't perform your organisation doesn't perform which in turn makes for unhappy shareholders. Understanding how the different elements of your assets are feeling; their health, allows you to take planned decisions on when to repair or replace or perhaps how to modify your operation to simply keep them running; avoiding production heavy losses.

The value these decisions make for your organisation is critical to its success; avoiding unplanned losses is fundamental to the success of your organisation. Taking a holistic view on these decisions we find that they should and are likely to form part of an asset management system; it is this system, when correctly implemented, which provides assurance that organisational long-term objectives can be consistently and sustainably achieved.

Losses incurred from catastrophic failure of assets are well known, well documented and often discussed, however, and unfortunately, losses are incurred globally due to the same root causes. Losses can be prevented, and lessons can be learned:

1. Organisations that operate a global portfolio should sustain high performing, mature asset management frameworks that can communicate failure events internally and updating strategies and plans to prevent re-occurrence;
2. Global organisations communicate externally and without delay to allow owners of similar technology to take immediate action and prevent loss;
3. Industry specific forums provide a platform for communication and learning;
4. Zurich shares industry sector loss events along with information where possible around causation and resolution;

5. Zurich continually updates asset management requirements set out within their risk grading processes; and
6. Zurich develops news guidance, risk insights and tools that assist customers in managing their risk profile.

So just how powerful is the combination of the requirements of an international asset management standard such as ISO55001 and the risk engineering services Zurich provides? Fig 1 sets out the benefits of asset management and how Zurich Risk Engineering aims to support the customer in maximising value.

Working collaboratively with Zurich enables our customers to focus on risk priorities at a level that fundamentally aims to prevent the occurrence of a significant loss event which could impact at an organisational level for an unacceptable time period. Underpinning the loss avoidance picture is a structured approach to risk engineering and solution creation.

ISO 550001 establishes key requirements that are consistent with the fundamentals of asset management, these are: Leadership, Planning, Support, Operation, Performance, Improvement. Throughout the period of insurance risk engineers will review these requirements with the insured parties, not to ensure compliance with the standard but to ensure that enough attention has been given to the risk exposures.

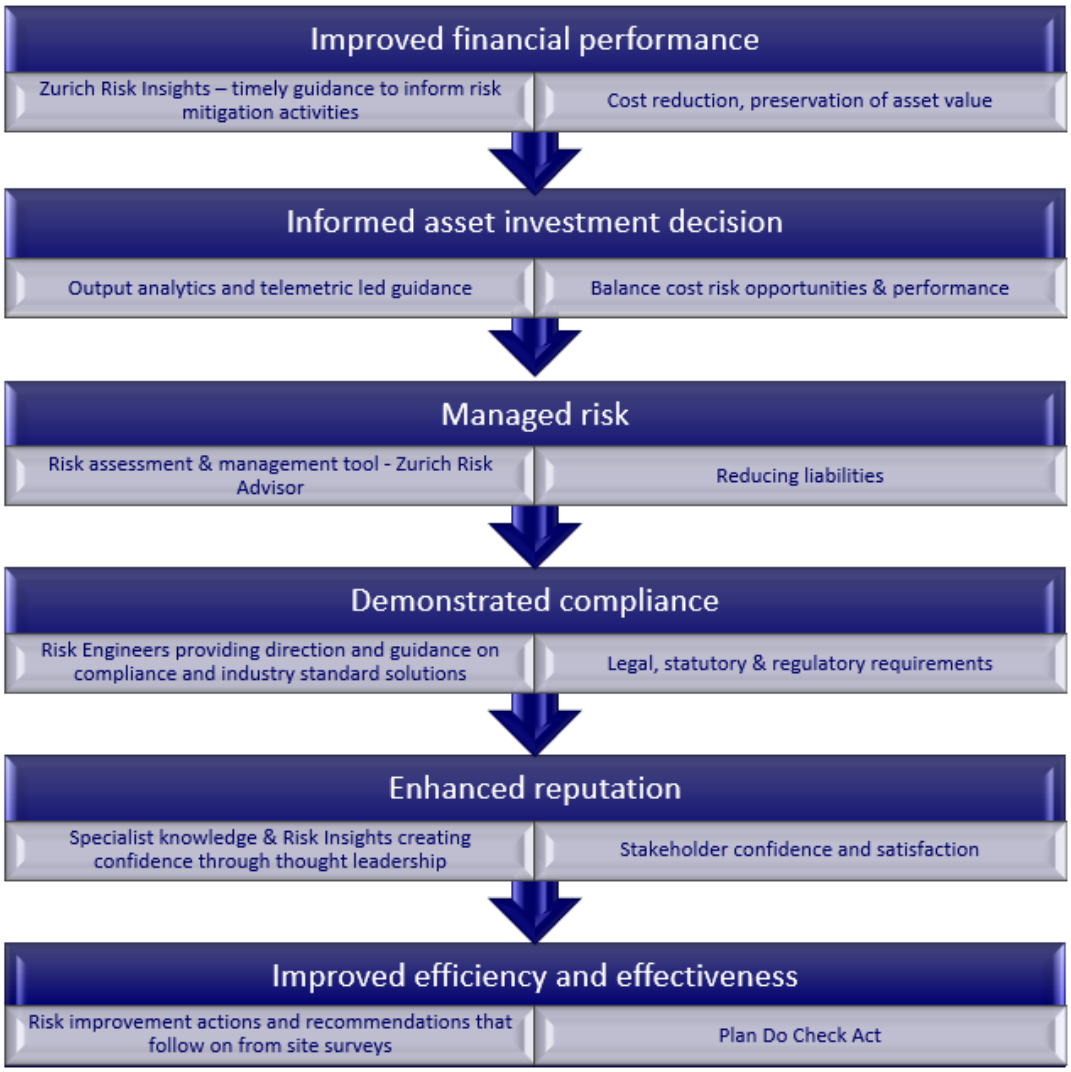

Fig 1: Alignment with benefits of ISO 55001 & Zurich Services

The right culture

The site surveys undertaken by the risk engineers focus on mature risk factors that are known to contribute to loss events and therefore are significant enough to warrant establish control mechanism in place at the asset and centrally where portfolios are managed.

A detailed review of the approach to the management systems allows the insured and Zurich to identify good practices and to determine potential areas for improvement. Although not technical, the leadership's approach to asset management sets out the culture of risk management and with that the decisions engineers and managers take; the development of a weak or misguided culture will have a real and serious impact on the performance of the asset(s) and the organisation.

Fig 2: Leadership and planning with risk engineering

What keeps the customer awake at night?

Zurich's risk factors are also at the centre of ISO 55001 requirements for Support and Operations. Throughout the insured period the customer and our risk engineers develop a common understanding of, how the asset is performing, what are the key risks and concerns, how

live operational risk assessment are performing and, if any, what restrictions exists from OEM bulletins. The detailed review allows a collaborative approach to determining risk improvements either in a pre-emptive or reactive sense in order to minimise the potential for loss and maximise the operational performance.

Where ISO 55001 does not direct asset managers to comply with specific legislation or set out asset types to employ, Zurich does set out requirements for fire protection and detection and are focused on the construction, design and firefighting ability on each asset. Our risk factors focus on specific detail that when scored provide a qualitative risk score which is capable of benchmarking and therefore the customer can demonstrate improvements during the asset's life cycle.

By the very nature of the approach to risk engineering at Zurich, the requirements of an asset management system are confirmed, reviewed and improved. The cyclical nature of risk management supported by the open sharing of information creates a synergy that cannot be achieved in other ways.

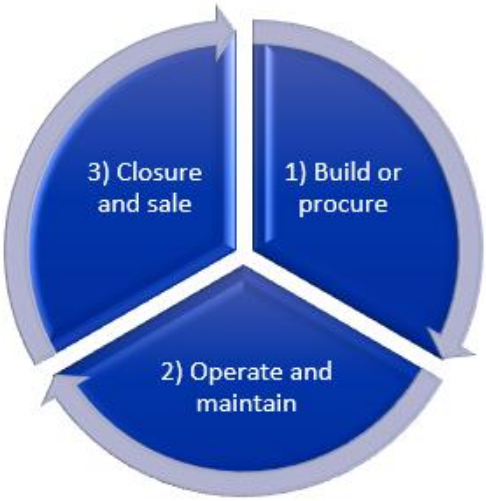

Fig 3: Stages of an asset lifecycle

Acquire and construct

Asset management does not just focus on the operations and maintenance phase of the asset's lifecycle, the most successful asset management frameworks are those that also sufficiently consider how organisations add new production to their portfolio. In doing so risks associated with location will play a significant role for an organisation.

Assessment of a location's flood risk will be just one peril that will be considered along with other common perils such as earthquake, lightning and tsunami. Understanding the locational risk exposures is an essential part of site selection.

Dedicated natural hazard engineers and construction risk engineers contribute to the ISO requirements within the build or procure phase of an asset's lifecycle.

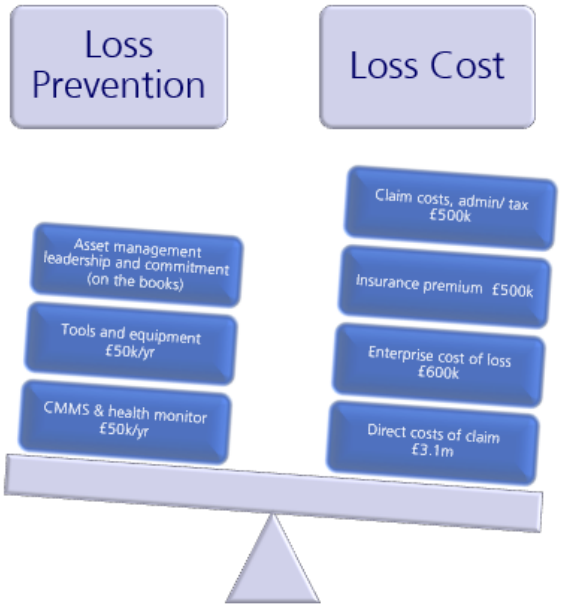

Fig 4: TCOR costs and balance

By providing the fundamentals of asset management and an asset management framework ISO 55001 allows organisations to focus on the value of their assets, which can be physical and financial. Asset managers are tasked with ensuring the value is maximised through the systematic alignment of strategy and plans which then translate into positive cultures and decisions.

Value-based risk decisions are taken at different levels of organisations and at different phases of an assets lifecycle in order to optimise performance; understanding the threats and opportunities of different and individual risk events is challenging and requires the input of the specialists and the experienced.

When we reflect on the Total Cost of Risk (TCOR) for a modern gas fired power station an owner could incur up to £5m loss cost (including direct costs, enterprise risk costs, annual premium costs) this a typical sum for the loss of a generator transformer. Loss prevention costs for driving world class asset management will add comparatively low levels of annual expense but will give the greater control over decisions on asset care and reduce the probability of unplanned losses.

The alignment of an asset management framework and Zurich's risk factor framework creates an integrated best practice risk management approach to maximising value and minimising the likelihood and impact of a loss events along with the subsequent business interruption.

In addition, through the use of telemetrics Zurich can understand the risks our customers face and therefore the losses that are most likely to be incurred. An increasing requirement to remotely monitor assets and support our customers business is growing, mirroring developments within the motor insurance industry.

We have been able to demonstrate the importance of aligning proactive asset management with strong risk engineering support to maximise organisational performance. Visualising this alignment is the first step in understanding the relationship between asset management and Zurich Risk Engineering. Two equally important elements to this relationship are:

1) How asset performance certainty can be developed through risk engineering; and

2) How the impact of business interruption can be reduced and mitigated.

Both elements will be discussed within following publications.

This document has been prepared by Zurich Insurance Group Ltd and the opinions expressed therein are those of Zurich Insurance Group Ltd as of the date of the release and are subject to change without notice.

This document has been produced solely for informational purposes. All information contained in this document has been compiled and obtained from sources believed to be reliable and credible but no representation or warranty, express or implied, is made by Zurich Insurance Group Ltd or any of its subsidiaries (the 'Group') as to their accuracy or completeness.

This document is not intended to be legal, underwriting, financial, investment or any other type of professional advice. The Group disclaims any and all liability whatsoever resulting from the use of or reliance upon this document. Certain statements in this document are forward-looking statements, including, but not limited to, statements that are predictions of or indicate future events, trends, plans, developments or objectives. Undue reliance should not be placed on such statements because, by their nature, they are subject to known and unknown risks and uncertainties and can be affected by numerous unforeseeable factors.

The subject matter of this document is also not tied to any specific insurance product nor will it ensure coverage under any insurance policy.

This document may not be distributed or reproduced either in whole, or in part, without prior written permission of Zurich Insurance Group Ltd, Mythenquai 2, 8002 Zurich, Switzerland. Neither Zurich Insurance Group Ltd nor any of its subsidiaries accept liability for any loss arising from the use or distribution of this document. This document does not constitute an offer or an invitation for the sale or purchase of securities in any jurisdiction.

Zurich Insurance Group