Asset Management: Fundamental Responsibility for Everyone in Business?

This document describes the responsibilities for everyone in an asset intensive business and challenges the traditional perception that leads some people to skip the right steps of the process.

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Background

With the advent of PAS 55 (Publicly Available Specification from the British Standards Institute) and its current evolutionary journey toward an international standard (anticipated to be transitioned into ISO55000), the subject of physical asset management has elevated the need for organizations and businesses, involved in construction, operation and decommissioning of assets, i.e. buildings, process plants, facilities, etc., to have in place robust processes and standards to manage these assets through the whole life cycle.

The term asset management has many roots, and has applied into the financial institutes, to refer to the financial management practice of investment for many years. In the past, asset management has not been a term used extensively by process industries, manufacturing, facilities management, etc.

Indeed, many traditional industries, involved in production, generation and manufacturing of products and utility services have referred to maintenance, operations, human resources, procurement, health, safety and environmental management activities as discreet activities, without really considering them as the components of their "asset management system" and overall responsibilities. Indeed the international standards that look to provide a framework for the governance of these activities are separate (for the right reasons), i.e. ISO9001 (Quality – Manufacturing & Supply Chain), ISO14001 (Environment), ISO18001 (Health & Safety), etc.

This paper looks at the responsibilities for everyone in an asset intensive business and challenges the perception usually verbalized as "We are here to make money" or "We are here to manufacture X product, safely". These types of statements are usually provided by the person saying it as an excuse for not doing the right things, for the sake of production output, and consolidating the silo mentality that exists within organizations between the different functions.

Adoption of an Asset Management philosophy and clearly defining this as a primary responsibility of everyone in an organization will be a fundamental change for the better, for the majority of companies.

It is not the responsibility of the Director or VP for manufacturing, plant manager, manufacturing manager, engineering manager, engineers, technicians, operators "to make money" or "produce X" – this is achieved by the company being successful in attracting customers who want to buy from you, which is not just down to commercial and sales teams, who, by the way could claim to be the function that makes the money, as a result of effective selling.

The success of a company resides with the whole organization focused on delivering against their asset management responsibilities. The responsibilities apply to each functional group that play their part in managing some asset or other, i.e.

Manufacturing or Production (including Quality) Departments: Running production processes within operating and capability limits, identification of improvements (process and quality) and waste reduction opportunities, i.e. the production or manufacturing operational assets;

Engineering and Maintenance Departments: Ensuring engineering design, maintenance and reliability of physical plant and equipment is fit for purpose, maintaining compliance and improvement in availability or reliability, i.e. physical assets;

Human Resources Departments: Ensuring staff and people development, talent retention and attraction, compliance to company rules values and behaviors are clearly defined and adhered to, through facilitation of performance management, disciplinary processes, talent attraction / retention, training and development, etc., i.e. people assets – "the most important asset";

Supply Chain & Procurement (including Quality) Departments: Ensuring quality and cost of raw materials, spare parts and general supplies, contracted services, etc. are optimized, but do not compromise operational performance and quality of end product, i.e. physical assets and people assets;

Health and Safety Department: Ensuring the safe operation, including license to operate, risk management, etc. i.e. protecting both the people and physical assets;

Environmental Departments: Ensuring the operations impact does not impact on the environment - locally and throughout wider communities, maintaining license to operate, compliance to statutory requirements.

Commercial and Sales Departments: Ensuring customer outlet of products and services, maintaining pricing and shareholder value, i.e. financial assets.

Finance Department: Ensuring the financial viability of operations are monitored and managed effectively, including capital and operational expenditure meets business requirements, budgeting, etc. – financial assets, people assets, physical assets.

Information Technology Departments: Ensuring alignment of corporate IT strategy, integration of ERP (Enterprise Resource Planning) and associated business systems with maintenance management systems (EAM or CMMS). Providing business data and

information solutions: Control, reporting, decision making, etc.

Contracted Services: Many companies now rely heavily on contracted service provision to support day-to-day maintenance and operational requirements, as well as MRO parts and raw materials. Many companies use local providers as well as larger contract companies, who provide a vital role in delivery of competent engineering and technical services. Many smaller service providers do not have the resources and organizational structures to sustain robust asset management requirements and therefore are reliant on the Customer's internal resources, policies, procedures, etc. to ensure compliance to Customers requirements.

In the case of physical asset management (the plant and equipment), the interaction and integration of the whole organization is essential and not just with the engineering and maintenance functions. A good example of this is in the area of contracts and contractor management. In many organizations, contractors provide an essential technical capability and significant resource capability, which means that many organizations rely heavily on such suppliers on a daily operational basis.

In many circumstances, contractors become an incumbent resource with significant impact on many organizations. With such importance, the need to effectively manage contractors requires a robust and clearly defined strategy, to ensure effective maintenance servicing whilst controlling costs and associated risks.

These risks will fall into a number of categories, i.e. financial, safety and health, environmental, quality of workmanship and integrity.

As organizations move to more reliance on a contracted service provider, it can be easy to allow the contractor to find themselves gaining more control of their activities and also the scope of their work – self supervision, scope expansion, etc., as they establish themselves as "indispensable" to their customer. This can be further compounded, by their customer, as they become further detached from the actual technical activities – reduced in-house expertise and higher reliance on scope definition by the contractor.

It is therefore important that, when an organization moves to a higher reliance on a contracted service provider for their maintenance requirements, the contractual arrangements are captured in a detailed performance-based contract with clear terms and conditions defining performance expectations. In addition to initial contract set-up, there needs to be a robust ongoing performance management process put in place, which looks to measure on a regular and routine basis, how the contract and contractor is performing. The elements of such a performance review process must look to drive the right behaviors and output expectations.

Such performance-based contractual arrangements are not unusual in large project contracts, but can so often be missed when the contracted services are of an ad hoc or "labor only" type, which many companies employ with small local service providers. Such contracts also tend to be managed by a small number of maintenance and engineering personnel, with little or no experience of contractor management and associated expectations and in some cases the legal obligations put on them when taking on such a contract.

It is therefore, imperative that organizations look at their current contractor strategy, or are looking at moving toward a contracted maintenance service, with a view to establishing a robust contract management strategy. The establishment of the strategy cannot be left to just the engineering or maintenance function, together with the procurement function, but needs to consider the wider implications, including company standards and policies, i.e.

- Health and Safety performance and expectations
- Environmental impact risks and expectations
- Skills and Competence requirements
- Planning and Execution capabilities
- Materials and supply-chain requirements
- General site-based management and supervision requirements
- Commercial competence and financial management – including understanding the contractor's business viability (long-term)
- Performance management and continuous improvement expectations

The above needs to be considered together the technical aspects of the contracted services and may be beyond that of the engineer's attention, who may be charged with pulling together the contract technical specification!

The above performance requirements can be brought together into a "balanced scorecard" and used as the basis for ongoing regular review with the contractor.

The following is an example of such a balanced review, which when applied correctly can provide a two-way exchange between the supplier and the customer, providing clarity on expectations and areas where performance is monitored and can be improved. This approach should be incorporated in the contractual scope and could provide a basis for performance based rewards and penalties.

Site Management			
*Score/Remarks by **Contractor Owner***			
Criteria	**Jan**	**Feb**	**Mar**
Organization / Co-ordination			
Quality of Supervision			
Program Progress			
Quality of Workmanship			
Comunications with Customer			
Total Score			

Commercial			
*Score/Remarks by **Procurement Department/Contract Owner***			
Criteria	**Jan**	**Feb**	**Mar**
Commercial Attitude			
Accuracy of Quotations			
Day-work / Variation to Order Response			
Contractual Approach			
Issue of Prompt Commercial Data			
Total Score			

H&S & Environment			
*Score/Remarks by **Health, Safety & Environmental Department***			
Criteria	**Jan**	**Feb**	**Mar**
Safety Performance			
Documentation / Procedures			
Risk / Method Statement			
Environmental Awareness			
Housekeeping			
Total Score			

Planning & Delivery Effectiveness			
*Score/Remarks by **Maintenance Department***			
Criteria	**Jan**	**Feb**	**Mar**
Quality of Planning			
Work Execution / Delivery			
Work Progress and Reporting			
Work Completion and Handover			
Staff Skills and Competency			
Total Score			

Examples of the criteria and scoring mechanism is shown below:

Site Management

Organization / Co-ordination (Maximum Score of 10):

- On-site manager responsible for full scope of company work
- Sufficient non-working supervision: 1 supervisor per 12 employees
- Defined personnel to support working groups (working team leader/charge-hand) – IOSH Managing Safely trained
- Defined process for out-of-hours working, i.e. emergency response / call-out procedure
- Safety representation (internal or external) availability/access

Quality of Supervision (Maximum Score of 10):

- Appropriate level of pre-planning and supervision provided
- Frequent and demonstrable visits to works areas undertaken by site supervisor
- Variation to work scope identified, and (consistently) reviewed with Customer management, with revised Health and. Safety (Risk Assessments and Method Statements), variation to order, etc. signed off appropriately and communicated to teams and Customer
- Processes in place for identification and pre-empting of problems, i.e. pre-planning, incident identification and reporting processes
- Problem / issue resolution processes in place, with clear communication mechanisms in place, i.e. incident investigation and improvement plan

Commercial

Provision of Quotations (Maximum Score of 10):

- Quotations are consistently accurate and reflect final costs
- Delivery of quotations are timely with minimal reminding/chasing from Customer staff
- Outline programs or work scope is accurate and meet expectations
- Scope of work incorporates all requirements, i.e. safety, interface with other working parties/sub-contractors, etc
- Resource planning clearly defined, together with competency and skills described, as appropriate

Day-work / Variations to Order Response (Maximum Score of 10):

- Any variations to work scope documented (and signed off by Customer representative) and presented to contract owner/end-user
- Variations to work are only undertaken following sign-off by Customer – final invoice clearly aligned to Customer expectations
- Re-quotations provided, outlining scope amendments and related costs, risks assessed and documented
- Day work extensions to be reported on and documented outlining issues and signed-off by Customer representative and/or maintenance teams
- Mitigating actions provided to minimize day work extensions/scope “creep”, whilst staying within cost / program plan

Health & Safety and Environmental

Safety Performance - refer to Monthly KPIs (Maximum Score of 10):

- Zero LTIs and below target for AIAs (as per Customer's requirements)
- Near Miss/Unsafe Acts/Unsafe Conditions reporting and close-out performance
- Safety briefings undertaken with own employees (refer to Monthly KPIs)
- Site safety inspections / Behavioral Safety Audits undertaken in line with targets (refer to Monthly KPIs)
- Health and Safety Competency Development plan in place and demonstrated progress to plan – number of training days for own employees (refer to Monthly KPIs)

Environmental / Food Safety (Maximum Score of 10):

- Waste management policy/procedures in place and adhered to
- Food Safety training completed for all employees, in-line with Customers requirements
- COSHH Management procedures in place and adhered to – validated from Behavioral Safety Audits/site inspections
- Noise / Dust / Nuisance Working policies/procedures in place and adhered to
- Compliance to Customer's GMP/Food Safety policies and procedures, i.e. product intervention permits, work place management, etc

Planning and Delivery Effectiveness

Work Execution/Delivery (Maximum Score of 10):

- Pre-work briefings conducted by Supervisor / working team leader (or "Charge-hand"), with relevant permits / isolations pre-organized and Risk Assessments and Method Statements in place and effectively communicated
- Materials, tools and parts, including other trades (e.g. scaffolding, lifting services, etc.) are arranged such that they're available at start of work (or start of activity) and delays in start of work is minimized
- Liaison with Customer and other working groups on activities – ensuring effective segregation of works areas and impact on others is managed – especially where multiple activities and working groups exist
- Engineering specifications and standards adhered to, including technical data references / recorded, e.g. clearances, heat treatment, alignment checks, etc.
- Commissioning checks / plans in place and adhered to

Work Completion and Handover (Maximum Score of 10):

- Final sign-off of work undertaken with relevant Customer representative ensuring delivery of expectations, signoff of work (including any variations to work/costs agreed), plant de-isolation and/or permit completion undertaken consistently –rework minimized/eliminated
- CMMS work order completion and feedback, with information on booked hours, costs, documentation, etc. consistently completed as final step of work completion
- Feedback on planning/scheduling issues identified and suggestions for improvement readily provided, supporting continuous improvement – reduced rework / improved efficiency
- Financial information consolidated within CMMS and aligned against PO details
- Timely handover (preferably on the day of completion or as soon as possible thereafter) of documentation required, i.e. test certificates, certificates of conformity, commissioning / inspection checks, etc.

Scoring would be based on qualitative and quantitative data and evidence.

The above scorecard would be used as the basis for the regular review process, (monthly, quarterly, etc.) to continually review the performance of the contractor. It also provides a basis from which to allow two-way discussion, allowing the contractor to present performance evidence. It would also provide clear expectations and opportunity to raise issues.

By scoring over a period, any trends (upwards or downwards) will be apparent, allowing discussions to focus on improvement needs.

The output of the review would be passed on to the relevant functions, particularly the Procurement Department, to be used to measure against contractual expectations, reviewing contract renewals and annual cost reviews – linked into HR Department, potentially on agreeing annual contractor rates aligned to company salary reviews, etc.

Links into the Health and Safety department on contractor performance will also serve to ensure ongoing improvements are focused on potential high-risk activities and provide details on safety incidents – themes, areas for focus, safety training requirements, etc.

Similarly, ensuring Environmental management (by the contractor) is aligned to company objectives and the risks from contracted activities are transparent and aligned.

From a service execution perspective, it allows the customer to identify areas for improvement, whether in competency, efficiency of delivery, etc., driving potential for internal and external issues to be identified and addressed. It will also allow further integration of the contracted activities, through ensuring the contractor works within the customer's maintenance management systems.

From an operational perspective, the focus on pre-planning and execution will mean improvement opportunities will be identified, usually in the need for better interaction with the contract teams – i.e. communication on scheduling, access to plant, isolation, permits, commissioning and de-isolation, etc. This focus and performance review will drive improved cooperation and efficiencies in getting the plant ready for maintenance and back up and running.

Further benefits that companies experience, who have adopted an effective contractor management strategy have been increased wrench time, reduced safety incidents, reduced costs, increased up-time, reduced environmental mishaps and resultant costs for clean-up or fines. Indeed, examples of reduced safety incidents rates have been achieved whilst also reducing, significantly, costs of contracted services:

- In a three year period, following adoption of their Contractor Management Governance process, a company in the UK reduced contractor lost time injuries from >6 per million man hours down to approximately 2 per million man hours;
- This same company also realized (verified) reductions in its costs on goods and services in the order of £50,000,000, in one year, as a result of its Contract and Contractor Management Governance – which applies to MRO parts as well as services.
- Significant improvements are also being seen from improved mobilization, following a wrench time analysis of their contractors – improvements have also been seen by the contracting companies with improved facilities and working conditions, with facilities being set-up closer to the areas of work, instead of outside the main plant.
- The number of contracting companies has been optimized, enabling the incumbent contracting companies to plan for the future – allowing long-term viability planning and business development. This is also seen, by the customer as a significant reduction in the risk, i.e. reducing the likelihood of losing key expertise and experience, if the contract companies were to go out of business or cease to support the customer as a result of insufficient work being available.

These types of achievements and benefits are not easily achieved, and rely on a clear strategy and leadership to ensure all functions within an organization are aligned and working together and to see it through. The hard work does however provide significant benefits to all involved and typifies the nature of asset management – whole life cycle and whole organization management.

Conclusions

Much of what is described in this paper is nothing new and from a contractor management perspective which is the aim of Supplier Relationship Management (SRM), Health and Safety management, Environmental Management, Maintenance / Reliability Management, etc. What this paper is aimed at providing, through using contractor management as an example, is an insight into how an asset management strategy requires integration of the organization's various functions to work to the common aim using the elements already known and defined in best practice and national / international standards, etc. into a coherent business strategy to achieve business objectives and shareholder value.

The need to ensure the asset management policies, procedures and work processes are clearly defined, performance expectations are being monitored and controlled, identification of continuous improvement opportunities are identified and acted on. Risks are managed efficiently and effectively and the most important assets, people, are given the opportunity to deliver on expectations in a safe environment with the opportunity to develop as professionals and as effective teams.

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