

Establishing a Manufacturing Presence in Asia: Environmental, Health & Safety (EHS) Considerations

by:

Joseph F. St.Clair & Arthur J. Yarzumbeck

The Challenge

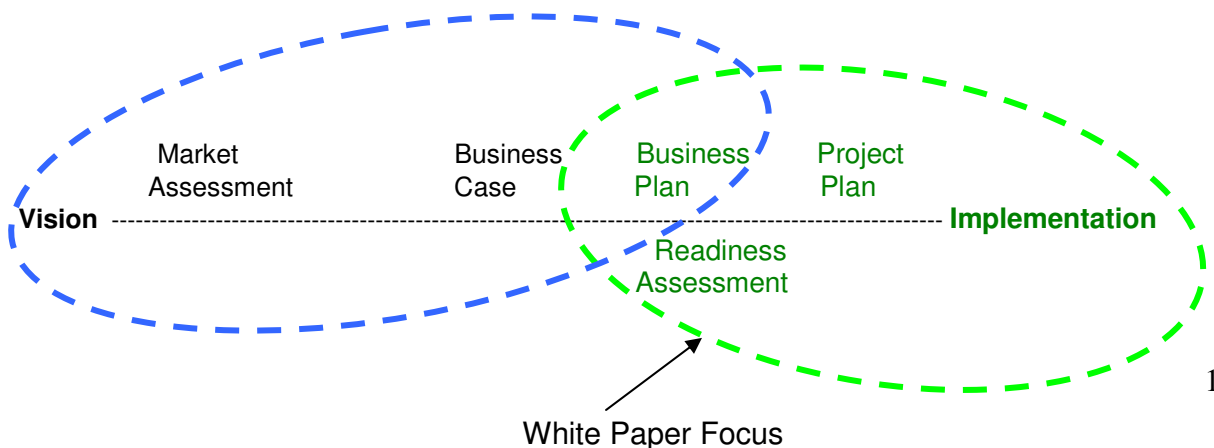
Improvement in any endeavor begins with recognition of a *need* and/or an *opportunity* for change. The difference between the two perspectives generally derives from the expected payback. Initiating a new manufacturing site is always a challenge. Doing so in countries like China or Vietnam compounds the challenge, given evolving laws, poor historical compliance, distance, logistics, and several other factors that are rife with opportunities for failure. In addition, Environmental, Health & Safety (EHS) are key strategic planning elements often overlooked in the budgeting process for a new overseas operation. Costs associated with environmental waste disposal and personal protective equipment for employees, for example, could easily result in significant cost overruns if not properly planned for.

Some companies invest resources to improve their (EHS) posture as a result of a significant (often tragic) event – like a serious injury or a major environmental incident that generates lots of “bad press” or a high-dollar fine. **Companies that don’t make EHS a priority factor in their strategic planning, however, do so at their own peril.** Besides the obvious reasons - avoiding accidents, injuries, or environmental incidents, there are less-obvious purposes for including robust EHS programs in the strategic planning for a new overseas venture. This White Paper discusses these, as well as the codified, comprehensive approach developed by East-West Associates (EWA) to:

- ensure critical EHS elements are not overlooked in the strategic plan
- apply state-of-the-art thinking to integrate EHS into the day-to-day operations of the new overseas venture
- establish benchmark EHS performance in the new venture that can be used to transform the company’s legacy operations

The overall EWA process spans the activities shown in Fig. 1. This includes developing the operational portion of the Business Plan, conducting a Readiness Assessment to ensure that the team is ready to execute the Business Plan, planning the project in detail and ultimately implementing the project. This White Paper focuses on establishing EHS processes within the activities highlighted in green.

Figure 1: EWA Value Chain



The EHS Culture

Not very long ago, Western-based companies realized the potential for substantial labor cost savings by moving segments of their business to the Far East. In their rush to succeed in achieving this relative advantage, some operational shortcuts were taken at times in the new foreign operations. Some resulted from poorly negotiated relationships with a foreign partner, or misunderstandings of who was responsible for what in the new venture. But, in other cases, some Western companies believed, for instance, that the level of regulatory control for Labor or EHS was far below that in the West. Several high-profile cases (for example, Nike, in the sport-shoe manufacturing sector) clearly demonstrated the dangers inherent in such thinking. In fact, the rapidly developing Far Eastern countries such as China, India, and Vietnam are strengthening their laws and enforcement regulating Labor and EHS issues. Part of the motivation for doing so is (like China) driven by a commitment to meet World Trade Organization standards. As well, industries in the developing countries are determined to learn from Western experience without having to pay the price of poor performance in these areas. In the interim, however, there remain many risks for significant delays in establishing new foreign operations for Western companies due to legacy environmental issues inherited by the new overseas operation – or high employee turnover resulting from injuries, lack of training, or unclear job directives.

So, many potential pitfalls still remain, even for the vigilant. EWA understands this and includes a comprehensive assessment (Figure 2) of these and similar issues as part of the business planning and readiness stages of a client engagement.

Figure 2: EHS Assessment Elements

- **Relevant Industry EHS Performance**
- **Client’s Historical Performance**
- **Annual EHS Targets**
- **OSHA / EPA Citation History**
- **EHS Culture Assessment**
- **Client Ownership Position – Foreign Venture**
- **Expected EHS Performance – Foreign Venture**
- **EHS Measurements – Foreign Venture**

Reviewing a company’s “EHS culture” is fundamental to an overall EHS assessment. This culture derives from several factors. For instance:

- Whether a company EHS policy exists, and how EHS is imbedded within the company’s management system
- The company’s actual EHS historical performance “at home”
- Comparison with industry peers

EWA’s staff have many years’ experience in helping a client complete an in-depth, honest assessment of its legacy EHS culture, and identify areas where relatively small

investments could yield significant improvements. The fundamental questions considered are:

- What level of EHS performance will the client company expect of the new overseas venture?
- What actions need to be planned and executed to establish the expected safety culture there?
- Will this planned performance differ from that of legacy operations? Should it?

Establishing the EHS Requirements

No EHS performance level can be achieved and sustained without demonstrated involvement from top management, supported by specific management objectives – and a measurement system to adequately gauge progress. Poster campaigns, rewards for sustained accident-free periods, and similar approaches to improve EHS performance have been proven time and again to be counter-productive – because employees see them for what they are: programs layered over an existing management system, rather than imbedded within. And these “incentives” quite often come and go as budgets allow. So does commitment to continual improvement.

Is There Potential Value-Add to Robust EHS Programs?

EWA believes that EHS and Quality are “two sides of the same coin.” Quality performance in every manufacturing operation requires flawless implementation of a repeatable process. Likewise, EHS processes must also be accurately and succinctly defined, **and flawlessly implemented**. Treating EHS as a key process within the management system allows an organization to:

- Communicate specific performance requirements to those who must implement them
- Measure performance against expectations
- Continually eliminate the root causes for accidents, injuries, illnesses, and environmental incidents

The analogy of ballet versus hockey (Figure 3) illustrates EWA’s approach to EHS management. An expertly choreographed ballet requires precise coordination of artistically created movements and beautiful music – resulting in a perfectly executed, repeatable performance. On the other hand, at a typical ice hockey game, no one knows exactly where the puck will go at face-off time. In fact, no game is repeatable.

Figure 3: The EHS Concept

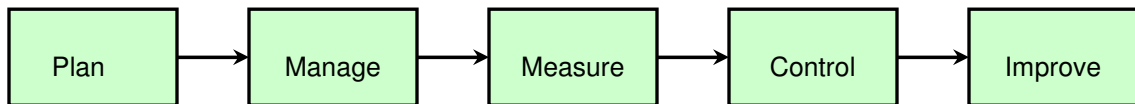


VS.



Eliminating defects is smart business because prevention is always cheaper than inspection or rework. Manufacturing defects are deviations from a planned series of actions to create a perfect, repeatable product or service. Permanent, legitimate improvements derive from a continuum of inter-related actions (see Figure 4). Treating EHS “defects” (accidents, injuries, illnesses, environmental incidents) the same as any other manufacturing defect provides the foundation to plan for continual improvement in this key business area.

Figure 4: The Improvement Continuum



And continual improvement in EHS processes results in potentially significant cost reductions associated with lost work time, medical costs, insurance, employee replacement, retraining, spill cleanups, fines, and adverse publicity. Prevention of such defects is the most cost-effective route to continual improvement – and those organizations that recognize the hidden costs associated with them can take the first steps to reap the rewards – through a defined, repeatable prevention process.

EWA’s assessment module highlights any weak points in the client company’s existing EHS management, and, working together, a reasonable set of EHS objectives are planned for the new overseas venture. Moreover, consideration can also be given by the client to plan and execute the newly designed EHS processes, first at the overseas venture, and later replicate them at legacy operations.

Risk and Reward – EHS in Foreign Ventures

As noted in other White Papers in this series, the potential rewards in successfully establishing and operating a new foreign venture could be substantial. Reduced operating costs allow a company to remain competitive in existing markets. And the foreign venture also offers the potential of substantial growth markets in the new geography. However, there are associated risks as well. As in other disciplines, planning to manage EHS in a new venture is challenging enough, but compound that with additional factors of distance, differences in culture, language, governmental regulations, and management styles in a new foreign venture - the risks of potential failure increase dramatically. To state the obvious, this is not the territory for the weak of heart. However, when managed as yet one other key process of several, with proven management discipline, the results can be both predicted and dramatic. And successfully imbedding EHS into an existing company-management process can accomplish this. Building “certainty” (through prevention) in EHS requirements results in safe, productive employees, a healthy work environment, and contributes to continual reductions in overhead costs mentioned previously. Figure 5 lists EWA’s codified process steps to achieve this.

Figure 5: EHS Process Implementation

- **Assess Historical Performance / EHS Culture**
- **Plan Objectives**
- **Establish References (including translations)**
- **Train New Management Team**
- **Establish Job Safety Analysis (JSA) Process**
- **Build EHS Into Job Training**
- **Measure EHS Defect Levels**
- **Plan For Continual Improvement**

Summary

Robust Environmental, Health & Safety processes are integral to a company's success – domestically and overseas. In addition to avoiding potential “show stoppers” associated with legacy environmental issues in a new overseas venture, successful implementation of well-designed, intelligible, and measurable safety & health processes results in substantial overhead cost reduction. EWA has the expertise and years of experience in assessing and successfully establishing comprehensive EHS processes in new operations throughout Asia.

Joe St.Clair joined EWA in 2005 where he is **Section Leader, EHS Product Development & Delivery**. He has provided specific EHS consulting services to EWA clients in China. Joe retired from IBM after 37 years of service in a variety of operations / supporting roles which included managing health and safety operations in the U.S. and Asia. Joe also has extensive experience in Manufacturing, Distribution, Purchasing, Production Control, Industrial Engineering, and Headquarters Staff assignments at various IBM Divisions and Corporate. He has been personally involved with start-up manufacturing operations in the U.S., China, Singapore, Thailand, and India – several of which received significant IBM and Government recognition for excellence in EHS programs. Joe holds a B.A. degree in Business Administration, as well as certificates from the IBM Manufacturing Technology Institute in New York, and the Crosby Quality College, Winter Park, Fla. A Vietnam veteran, Joe lives in Austin, Texas, with his wife, Linda and three daughters.

Art Yarzumbeck is **EWA Sr. V.P. & Principal**. Art established EWA in 2005 with a business colleague after a career in IBM's Technology Group. During his IBM career Art held management positions in all the major manufacturing disciplines including engineering, quality, development and direct manufacturing operations. Art spent 10 continuous years in China as Director, Asia Operations for IBM Technology Group. In this role Art established and managed operations in China and Japan. Art has also established a variety of manufacturing operations for EWA clients in China and Vietnam. Art holds an MS in Chemical Engineering and is also a retired LTC in the Army Corps of Engineers, U.S. Army Reserve and a veteran of the 1st Gulf War. Art and his wife, Marge, are the parents of 3 children and grandparents to 2. They live in Concord, N.C.

Post Script

EWA's staff has spent over 50 years initiating and managing manufacturing operations in many countries for major Fortune 100 companies as well as smaller, privately held firms. This experience has been primarily Asia-based but also includes Central and South America, Canada and Europe. We have obviously learned a great deal about international manufacturing operations. We have codified our experiences into what we refer to as 'Critical Planning Factors' (Fig 6). There are currently 22 of these Factors and we view them as mandatory considerations in the development of a solid Business Plan leading to successful Project Planning and Implementation. Supporting the 22 Critical Planning Factors are over 1000 sub-factors which really form the basis of EWA's Value Chain offering, especially in the area of Business Plan Assessment / Development. As part of an overall Business Plan Assessment or Development, all of the 1000+ sub-factors are reviewed in great detail over a 2-4 week period by a highly skilled EWA team. This review is followed by an in-depth written report of findings with specific recommendations in areas found to be in a 'not ready' status. The linkage among the various Factors is critical, especially as each influences the Financial Planning Factor. This linking is a natural outcome of

EWA's Business Plan Assessment / Development offering. Other White Papers in this series are designed to address each of the Critical Planning Factors.

Fig. 6
EWA's Critical Planning Factors

- 1. Financial Plan**
- 2. Project Confidentiality**
- 3. Site Selection**
- 4. Human Resources**
- 5. Expatriate Policies**
- 6. Board of Directors Operations (JV entities only)**
- 7. Partner & Government Relations**
- 8. Business Formation**
- 9. Intellectual Property (IP) Protection**
- 10. Physical Security**
- 11. Information Technology (IT) & Integration with Parent Company**
- 12. Disaster Planning**
- 13. Sales & Marketing**
- 14. Environmental, Health and Safety**
- 15. Supply Chain**
- 16. Customer Fulfillment Process**
- 17. Manufacturing Operations**
- 18. Quality**
- 19. Facility**
- 20. Country Infrastructure**
- 21. Project Management Process**
- 22. In-Country Business Support**