

28

Contractor Safety Management

Michael Farris

28.1

Introduction

The goal of this chapter is to share ideas about the safety component of contractor management with persons who need a working knowledge of contractual business relationships, incident rate terminology, and contractor program scoring metrics. The general purpose of contractor management could be described as a loss prevention function, with the goal of ensuring that losses are prevented by selecting a qualified contractor company that can provide adequate services in a manner that provides a safe working environment for all affected personnel. Throughout this chapter, the term “*safety*” is used extensively, but the reader should consider that in many cases “*safety*” management is expanded to include loss prevention, risk management, security, health, and environmental protection. The metrics and terminology associated with each of these subjects can be complicated, so for the sake of simplicity and clear communication we shall refer to these program elements simply as “*safety*.”

Unless a source is cited, the reader should assume that the material, interpretations, and illustrations are the opinion of the author and should not be construed as a representation of any organization mentioned in the chapter. The concepts discussed in this chapter are based on the author’s experience with contractor/operator working relationships in the oil and gas industry. In this industry, contractor management is a complicated relationship between owners/operators who solicit services from a large number of contractors. One could consider a complicated working relationship to be “the rule” in the oil and gas industry. The exception to the rule is a single facility with a small number of service companies. The structural concepts and review methods discussed later in the chapter are presented in an attempt to help those outside the industry gain a better understanding of a work environment that operates 24/7/365 (24 hours per day, 7 days per week, 365 days per year). Work conditions and business relationships undergo a rapid rate of change that must be managed at all times.

Most of the material in this chapter is presented from the perspective of an operating company and may contrast with the perspective of a contractor. The

reader should consider that most of the terminology in this chapter comes from domestic US operations. Many of the evaluation techniques presented can be used in an international setting, but contractual structure and operating relationships may be different depending on the country of operation. International contractor management can be rather complex and the amount of material needed to explain and illustrate these issues would be extensive and beyond the scope of this chapter.

28.1.1

Terminology

Before exploring the details of a comprehensive contractor safety program, we need to discuss some fundamental differences between owner/clients and the contractor companies. First, let us define “Operator,” the term we shall use throughout the rest of the chapter to describe the entity that will typically employ a contractor company. In the oil and gas industry, Operators are responsible for the business of operating an oil and gas entity. For the purposes of this chapter we will define “Operator” as the “Client” of the contractor and include facility owners and/or operators, production companies, and utility distributors in this group. We will use the term “Contractor” for service companies, labor management companies, construction firms, and other specialty service companies.

The terms “Contractor Safety ” and “Contractor Management” are often used interchangeably by those who involved in the contractor selection process. “Contractor Management” is a broad concept that includes preliminary evaluations, “onboarding” new companies, competitive bids, work orders, and various legal interactions. The reader should be aware that strictly interpreted, “Contractor Safety” is a process focused on evaluating the safety performance of a contractor company; often viewed as an integral element of overall Contractor Management. This is why many Operators include safety in the Contractor Management process. This chapter discusses some of the challenges that are often addressed with this approach. The primary goal of the Operator should be to select the best Contractor for the job by performing due diligence, evaluating safety performance, operational performance, and bid packages between comparable service providers.

28.1.2

The Contractor Perspective

Why is a contractor in business? Not a trick question, but a difficult one for many Operators to answer fully. In some cases, a Contractor is in business because a person had a truck or welding machine and their friend at the local Operator’s office needed some immediate help. One good job turned into more work . . . which turned into a full-time employee, which grew to a small contracting service company. Many Contractors stay in business simply because their small business is able to provide greatly needed services for the local Operator.

Some Contractors are in business to perform highly skilled, very difficult, or very dangerous work. Welders, specialty construction, well drilling, blow-out control, pipeline installation, confined space work, scaffolding, and so forth are prime examples of these types of services. These Contractors have unique tools and people with knowledge that is both unique and difficult to obtain.

All Contractors, regardless of specialty status or size of company, deal with a perpetual paradox, namely their labor pool. They have to recruit skilled talent in order to provide good service to their clients. They have to pay the skilled talent in order to retain them. The client wants to pay as little as possible for the highly skilled talent and very expensive specialty equipment, and the client wants the Contractor off the payroll as soon as possible at the end of the job. If you add in the factor of needing to increase the labor pool because of an unpredicted timeline change (at the Operator's request), you have added the new dilemma of training new people just for the Operator's short job. The Operator wants the Contractor to provide highly trained people, as long as the new hires were trained by the Contractor before they joined the project payroll.

28.1.3

The Contract

The Contract between the Operator and Contractor can take many forms; a few are described below. It is very important to consider the type of agreement as you go through the selection process, whether you are an Operator or a Contractor.

- **Master Service Agreement (MSA):** typically a long-term service arrangement that addresses the services provided and some form of cost structure.
- **Labor Service Agreement, Management Service Agreement, or Operating Service Agreement:** describes the terms of labor provided to operate a facility that is owned by the Operator. In this case, the Contractor may actually operate a facility with little or no owner oversight.
- **Construction Contract:** describes the relationship and services necessary to fabricate and construct a facility; it can be an extremely complicated agreement. In order to be effective, the scope of services must be clear and must address labor (including overtime), materials, equipment, weather delays, schedule, responsibilities, and liabilities. A Change Order is a formal agreement that documents a change in the project scope or significant change in conditions affecting the project. The Change Order becomes very important if the changes will create additional costs for the project. Change Orders may be executed to account for items not included in the initial scope of the Construction Contract. Client-ordered revisions to project drawings may be accounted for in a manner similar to a Change Order.
- **Maintenance Contract:** usually provides the same services as a Construction Contract. The difference is that the labor pool often "nests" on-site at the Operator facility. The service agreement may be as simple as a certain number of workers to be available at an agreed upon profit margin above Contractor cost for time and materials. Often, the Contractors are given daily directions

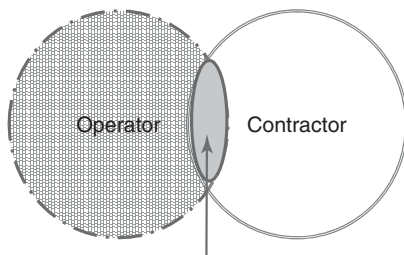


Figure 28.1 The contract.

from Operator supervisors. In the event of injury, this must be accounted for on the Occupational Safety and Health Administration (OSHA) Form 300 log maintained by the Operator.

- **Turn-Key Contract:** conceptually, the Operator pays a specialty service company to build and/or deliver and/or install and/or create a specific item. It can be vehicular, modular, process oriented, underground, and so on. This can be useful when the Contractor has better access to materials and labor than the Operator. The scope must be clear and material specifications are critical for this type of contract. Examples of Turn-Key Contracts include a drilling rig, compressor package, or a well drilled to a certain depth with specific tubulars in the well.

Figure 28.1 enables one to visualize better the relational challenges created by the contract. The gray area between the Operator and Contractor represents the contractual overlap between business entities. Keep in mind that the contract should clarify who has control of a project and where lines of accountability end. Our specific issue here is contractor safety programs: is the Contractor’s safety program used on the Operator’s project, or does the Operator recognize hazards and dictate safe working procedures?

28.2 Contractor Management

28.2.1 The Process Model

28.2.1.1 Overview

The “Process Model” is one means to illustrate the cycle of continuous improvement. One of the simplest versions is the four-stage “Plan–Do–Review–Act” model. The five-stage model illustrated in Figure 28.2 is thought to be a method that will efficiently run and continuously improve a Contractor Safety Program. It builds upon the four-stage model with initial specification of requirements to guide the following phases.



Figure 28.2 Process model.

The process cycle applies to each level of the relationship with the contractor community. One can identify three layers of this relationship:

- 1) corporate
- 2) supervisor
- 3) labor (front-line personnel).

28.2.1.2 Process Stages

- 1) **Set guidelines:** This stage establishes operating procedures that guide day-to-day work activities. Guidelines can be set for the entire organization or within a specific business unit and can apply to the corporate, supervisor, or labor levels of the contractor relationship. By addressing the corporate and supervisor levels, the labor level remains protected. Elements of this stage include the following:
 - a. Management sets the contract terms for each company at the corporate level.
 - b. Safety-related performance data are captured and limits set.
 - c. Contract negotiation and renewal guidelines are established.
 - d. Supervisor expectations are communicated.
 - e. Contractor employee expectations are documented.
- 2) **Plan to meet guidelines:** This stage addresses how the guidelines will be implemented. A Safety Plan can document the schedules for meetings, orientations, training, and audits or reviews. It is important to document the plan and keep accurate records for use as a reference as the plan is periodically reviewed. Elements of this stage can include any of the following:

- a. Corporate level:
 - i. routine evaluation of active vendors to identify potential risk
 - ii. routine reviews in each operating area
 - iii. management review of high-risk contractor companies.
 - b. Supervisor level:
 - i. periodic meeting with consultants and supervisors
 - ii. orientation and training program
 - iii. review of Contractor safety performance data routinely
 - iv. routine incident review with safety staff and Operations Managers.
- 3) **Do what is planned:** This stage includes the implementation of a Safety Plan. You should complete action items by following the guidelines set in the first two stages. Elements of this stage include the following:
- a. Execute a Safety Plan or implement safety elements in operational plans.
 - b. Document individual manager goals related to safety performance.
 - c. Retain Records: audits, training, reviews, management evaluations, and so on.
- 4) **Review plans periodically, review contractor and supervisor performance:** Review the Safety Plan during each Division or Area safety meeting to assess the progress and efficiency of all involved parties. Elements of this stage include the following:
- a. Review the corporate scorecard and outstanding action items at each recurring Safety Committee or management meeting.
 - b. Review regional or area progress at least quarterly.
 - c. Routine facility inspections; higher frequency for companies with less effective environmental, health, and safety (EHS) programs.
 - d. Orientation and training status reports.
 - e. Contractor Management Program procedures annual review.
- 5) **Act upon findings in each review:** This stage includes addressing issues determined in the reviewing stage to improve the efficiency of a process. Elements of this stage include the following:
- a. Address contractors with poor performance or lack of improvement.
 - b. Document accountability for completing annual EHS training.
 - c. Update the Contractor Management Program annually.

The process cycle goes into a continuous improvement mode when actions taken in the “Act” stage are carried forward into the stage of “Set Guidelines.” The revised Guidelines are carried further into the cycle as time goes by.

In the explanation above, certain elements of the Contractor Safety Program are discussed in each stage of the process cycle. These elements are listed simply to illustrate the cycle and are not all inclusive. Many other program elements and evaluation tools should be considered as part of a comprehensive management system.

28.2.1.3 Audits

Contractor Management is a functional part of many organizations, but the validity of the program may not be verified on a regular basis. It is easy to assume that

the program is functioning as intended, especially if the onboarding process is cumbersome or contractor selection in the field is far removed from the “corporate” contractor management system. As discussed earlier, the process model dictates that a prudent Operator evaluate the effectiveness of the contractor management program during the “Review” segment of the process. Many Operators share the belief that safety audits are a fundamental component of any contractor safety management program, but few agree on the exact content, scope, or process to be used for these audits. Audits may focus on corporate safety programs, specific elements such as training programs, or look for evidence of safety awareness within front-line contract labor. Regardless of questions asked in the audit, the audit process typically is faced with two recurring problems. One is the lag time, sometimes weeks between the audit and closure of all findings. The other is the time lapse or disconnect between the personnel involved in the audit and other contractors working on-site. Some contractor companies may only be on-site for a couple of days or even a few hours.

Various industry associations have a segment-specific audit checklist and/or protocol available to members, and some are available to non-members. The following gives a few examples of industry associations that have collaborated to develop a safety audit. This is a small list and within the industry an Internet search will identify numerous other resources.

- **Drilling:** International Association of Drilling Contractors (IADC).
- **Well servicing:** Association of Energy Service Companies (AESC).
- **General industry:** Occupational Safety and Health Administration (OSHA).
- **International:** International Association of Oil and Gas Producers (OGP).

This section will not explore the merits of any particular audit program, but will serve as a commentary on the benefits of an evaluation at the front line in addition to the traditional audit program.

28.2.1.4 “Real-Time Snapshots”

In addition to traditional audits, Operators may wish to perform site-specific evaluations with results captured as a “real-time snapshot.” Consider the concept that a snapshot is a picture of conditions at a specific time. A “real-time snapshot” is simply a display that compares the corporate safety program with the front-line employees’ understanding of the Corporate Program. This process may help address the problem created by personnel changes. For example, one can perform an audit today with poor results and audit the same company next week and get highly favorable results because a new crew of workers is on-site. Figure 28.3 is a simple graphical illustration of a survey comparing the results between three levels of the Contractor organization. It is easy to distinguish between the results one would see with a company audit and input from front-line supervisors and employees.

The solid line indicates the results obtained from a corporate review or audit; the other results could be gathered from a site safety inspection. This clearly shows

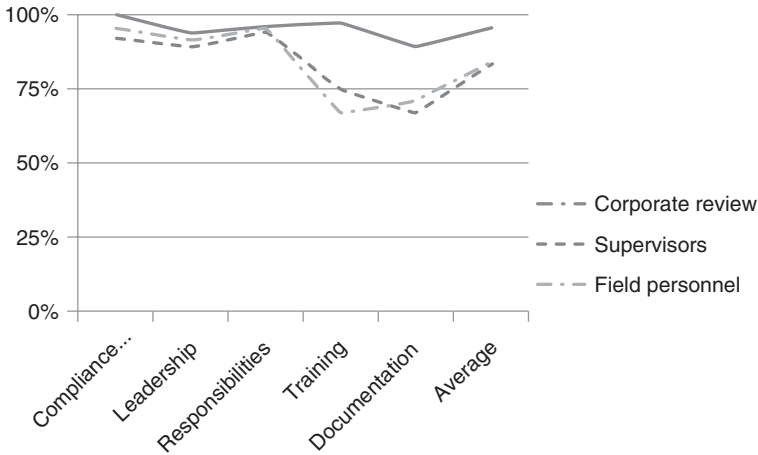


Figure 28.3 Comparison of audit findings with site inspection results.

a discrepancy where the corporate audit would have been favorable, but the site survey indicates deficiencies in training and documentation.

28.2.2

Business Relationship Cycle

28.2.2.1 Contract Life Cycle

A contract will typically have a beginning and an end with specific performance terms and actions dictated in the terms of the contract. Consider Figure 28.4, a greatly simplified example of the contract life cycle. The horizontal timeline runs left to right and is intersected when the contract is initiated between the Operator and the Contractor. Services are available under the contract terms until the contract is ended at the second intersecting line. Note that the cycle can start again at any time, either with a new contract under different terms or simply as an extension of the original contract. The contract can end for numerous reasons: some may be business decisions that maximize profits or performance and others may be due to a disagreement between the players.

Problems may arise for either or both of the parties if either of these milestones is ignored and work is performed for the Operator by the Contractor. A person new



Figure 28.4 Contract life cycle.

to Contractor Management may find it hard to believe that this can happen, but consider the following situations:

- **Confusing companies with similar names:** A field supervisor working for the Operator needs a particular service and knows that “ACME Field Services” provides the services from a nearby shop. The supervisor checks the “approved vendor list” and finds “ACME Oilfield Services” (not the same company) as an approved vendor. If the vendor list does not provide adequate differentiating information, it is likely that the supervisor will solicit business from the company with a similar name.
- **Contract expires in the middle of an ongoing project:** The Operator field supervisor could use the services of a Contractor past the end of the contract if the terms of the contract are calendar based and the supervisor is not aware of the end date. In some companies, a corporate contractor management group initiates and terminates contracts. In this situation, it is possible for a supervisor within an operating area to use contract services after a contract is ended by the corporate group if the contract termination is not communicated to all affected parties.
- **Contract is limited to a specific geographical area or operational team:** It is possible to write a service agreement between a Contractor that is limited to a particular state or operating area defined by the Contractor. In this situation, fees may change drastically for services in other areas, insurance policies may not provide coverage, and regulatory compliance in the new area may be a problem.

28.2.2.2 Operator Key Players

The Operator will typically engage the following personnel in the contractor management process. Each role is briefly described below, but often the roles will overlap or a single person may perform multiple functions.

- Supply Chain Management, sometimes called *Contracts Management*, documents and retains the contract with each Contractor. This group usually obtains counsel regarding the legal implications of the contract and must coordinate between departments if the Contractor is available to multiple groups. Additional considerations include complexities that arise because of geographical locations of the Operator and Contractor, especially if the operations occur in multiple states or countries. This group usually maintains a list of “approved vendors” who have a contract to provide specific services or goods to the Operator.
- The Management Team often initiates the request for a new contractor or adjustments to an existing contract. Someone in “management” will validate the business need for the new contract and periodically re-evaluate existing contracts.
- Site Supervision may initiate a request for a new Contractor and this request will be forwarded to the Management Team for review. Site Supervision often has the greatest amount of direct interaction with the Contractor workforce, coordinating

work orders with supervisors and often coordinating job details with Contractor employees.

- Site safety representatives may report to Site Supervision or to a person off-site who supervises safety efforts for additional sites. Sometimes the site safety responsibilities are assigned to an operations person with additional duties. Duties may include meeting with Contractors to review safety program elements and perform site inspections and audits.

28.2.2.3 Contract Phases, Issues, Solutions

The contract life cycle can be broken down into three phases with somewhat different responsibilities in each phase for the Operator key players discussed above.

28.2.2.3.1 Phase 1: Onboarding

Onboarding is the process used by the Operator to evaluate a Contractor company and decide whether their services suit the business needs of the company. In some cases, onboarding is simply a contract execution process that may be triggered by an operations supervisor or when a vendor approaches the company with an offer for services. In this instance, the onboarding process may take from a few hours up to a few days, depending on how many people must review the contract and how difficult it is to obtain a final approval signature.

Some Operators have an extensive and rigorous onboarding system. The process begins with a request from operations to add a vendor, which triggers a series of inquiries from the Contracts Management group. Some of the evaluation details will be discussed later in the chapter, but in general the process may evaluate the safety programs, compliance efforts, management commitments, financial strength, insurance limits, and other basic business competence. This process can take weeks depending on the volume of information that must be evaluated and the complexity of the contract. Onboarding is managed extensively by the Contracts Management team with occasional input from management and little or no input from the other key players.

28.2.2.3.2 Phase 2: Routine Operations

- 1) **Early stages** – The initial business relationship often involves Operator and Contractor personnel who do not know each other. The Contractor employees working for the Operator are likely to reflect the image presented during the onboarding process. Initial efforts by the Operator can focus on ensuring that the Contractor has properly implemented their safety program. Each of the key players except the Contracts Management team are involved in the business relationship.
- 2) **Ongoing operations:** The relationship may be similar to the early stages, with both sides benefiting from familiarity and growing trust if the relationship is going well. Problems may arise due to personnel changes, especially if attrition is high. The problems may be magnified if key personnel change more than

once in a short period of time. Consideration must be given to rapid growth of the workforce simply due to the growth, expansion, or scope changes of the project plan. Any personnel changes can provide additional risk factors to safe operations.

- 3) **“Late in the game”**: Personnel changes that occur towards the end of the project can magnify any existing deficiencies and create numerous opportunities for communication breakdowns and increase mental stress on the work force. As the end of a project nears, qualified workers will start looking for new employment that will last longer than the current job. Some workers accept the pending layoff as part of their job, some look forward to it, and others are stressed because of it. In some cases, the layoff of some workers will be postponed in order to cover vacancies left by others who quit. In other cases, additional workers will be brought to the site for a very short time to complete the job. The culture of the new, short duration workers can create additional stress and distractions on the project. The same Operator key players involved in the ongoing operations will be involved late in the game, but it is very likely that they will be required to expend more energy than normal trying to keep short-term workers focused on working safely.
- 4) The “late in the game” challenges can be magnified even more with projects that are of short duration and/or are performed by a small group of specialized workers.

28.2.2.3.3 Phase 3: End Project

The conclusion of a contract relationship should be clearly defined in the contract. Each key player can have a role in the final handoff of responsibilities, but the actual contract termination will be handled by the Contracts Management team or a management designee depending on delegated authority.

Figure 28.5 provides a general illustration of how the key players interact with the Contractor in various stages of the working relationship. It should be noted that these concepts are generalities and numerous additional players can be identified and the stages of the business relationship can be subdivided in numerous ways. Note the process arrow at the conclusion of Phase 3: this timeline is intended to illustrate briefly the life of a contract. A new contract may be immediately executed upon conclusion of the contract. Another way to look at this is to recognize that a project may end without ending a contract, a contract may end between two parties without ending a project, or a project and contract may start and end together. The terms will be spelled out in the contract.

It should be noted that the illustration of a contract life cycle is very general in nature and many companies will have numerous additional layers and key players. An important concept will be explored later in the chapter regarding how to evaluate the safety program of a Contractor on-site and corporately. A key point to consider in Figure 28.5 is which person working for the Operator can affect safe work practices at various stages of the working relationship.

For example, if the Operator Contracts Management team is the only group that interacts with the Contractor in Phase 1, they should develop a robust pre-contract

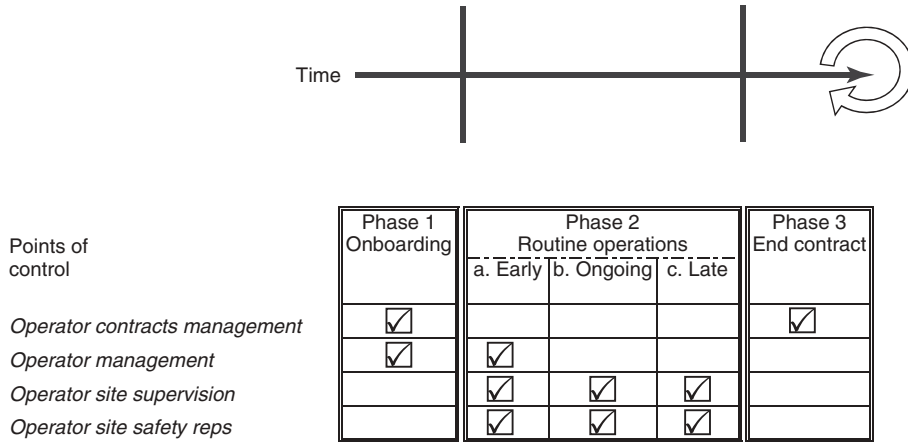


Figure 28.5 Contract life cycle, phases, and control points.

evaluation program, but not a site safety inspection program. Conversely, if Site Supervision works exclusively on location with Contractors and never participates in the onboarding process for new companies, the Site Supervisors’ time would be best served by developing an inspection program or other site-specific interaction with the Contractor workers and Site Supervisors.

28.2.3

The Purpose of a Contractor Management System

28.2.3.1 Date to the Prom

One could compare the business relationship between Operator and Contractor to a dating relationship. On one end of the spectrum is the casual date: first date, last date, no connection, and shallow knowledge of each other. In the middle somewhere is the Prom date: lots of stress, lots of expended energy, high expectations, and a clearly defined ending. The other end of the spectrum involves long-term commitments, extensive investments, lingering liabilities, headaches, and a possible messy ending with painful legal wrangling. A good contractor management system will serve as a matchmaker, so that one side is not investing too much and nobody leaves angry and frustrated.

28.2.3.2 Select the Safest Contractor

Before giving the question much thought, many safety professionals would say that the purpose of a Contractor Management system is to select the safest company available. However, if your single goal is to select a safe Contractor, you may be ignoring significant business impacts of your decision. Consider the following questions: what if the safest company

- costs twice as much as the competition
- has very poor reliability

- has a low incident rate based on injury loss metrics but has documented fatalities
- has a poor track record with your management.

28.2.3.3 Select the Best Contractor for the Job

The business of safety is a relatively new concept to many safety practitioners, which is why the concept has been promoted extensively by the American Society of Safety Engineers. A basic goal of this concept is to blend practical business needs with safety and risk management practices. A good Contractor Management system will evaluate many risk factors during the selection process. Properly implemented, the system provides adequate information to the Operator's management. The management team can identify acceptable risk, mitigate unacceptable risk, and utilize a Contractor who can perform the job in an acceptable manner. In this way, safety-based selection is replaced by risk management and low bidding is replaced by a competitive evaluation.

One benefit to this approach is a level playing field for competitive bids between contractors. A company that has implemented a safety program will often have a slightly higher base cost than a company with no program in place. Training, safety meetings, industrial hygiene efforts, and administrative support all take time away from actual work and cost money to implement. It is important to make an "apples to apples" comparison between companies and evaluate long-term quality of service in addition to initial bid cost and loss metrics. Often, the lowest initial bid will be more expensive in the long run, especially if the company does not have established safety programs and formal operating procedures. From the safety perspective, a company may have a very low injury rate simply because they do not accurately report injuries.

Later in the chapter, we discuss ways to quantify Contractor risk using traditional loss metrics such as incident rates and insurance modifiers. We also discuss how to weight certain issues differently depending on the working relationship (type of service agreement) between Operators and Contractors.

28.2.4

Contractor–Operator Relationships; Inside the Fence or Running Loose

28.2.4.1 Inside the Fence

Figure 28.6 may be the concept of the Contractor relationships that most of us have in mind when we start talking about managing Contractor safety. Simply put, a smaller Contractor is working within the fence or walls of the facility owned and operated by a larger company.

In this situation, the prudent Operator may take on additional responsibility to ensure that each Contractor has an effective safety program. In some cases, Contractor maintenance personnel "nest" on-site for years and typically know more about the facility than the Operator's employees.

Safety management can be relatively straightforward in this relationship, because of the continual interaction between Operator supervisors and Contractor personnel. The fact that the Operator controls the entry point to the facility ensures that

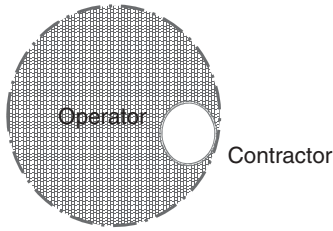


Figure 28.6 Inside the fence.

all personnel entering the site have been through a minimum amount of training and orientation, which can be verified by a basic badge system.

28.2.4.2 Running Loose

This relationship may not be the most common, but it is likely to be the business relationship most often overlooked by the Safety Management system. The old adage “out of sight, out of mind” certainly applies here, as shown in Figure 28.7:

It would be easy to think that off-site Contractors are not a serious concern: after all, they are doing their own thing at someone else’s place, right? Operators do not have any real liability for their actions, do they? We could debate the legal and contractual limitations at this point, but it is beyond the scope of this chapter to provide a detailed description of this debate. It is briefly outlined below. You should simply consider the fact that a Contractor is doing work for someone – not themselves. When approached by neighbors, the media, irate landowners, public officials, and so on, the answer will be that they work for (and represent) the Operator.

The safety aspect of this relationship is difficult to manage, for several reasons:

- **No direct control:** the Operator may not have anyone on-site with the Contractor.
- **No management system:** in some cases the “Operator” is a business entity of investors who may have limited knowledge of the work activities and risks. They may not have any kind of management system in place.
- **Conflicting systems:** the Operator may have a massive management system and the Contractor may have certain “off-the-shelf” or “home-grown” system tools. A simple request to report an incident can create twice the usual amount of work to accommodate both systems.

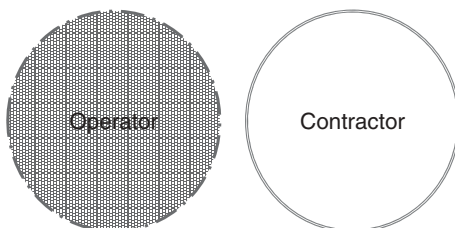


Figure 28.7 Running loose.

- **“Hands off” legal perspective:** the management on either side or both sides may have a policy not to share certain information and not to allow interaction with outside systems. Specifically, incident information, personnel contact information, and media communication may be filtered or prohibited.

28.2.4.3 Neither of the Above

This is where things may seem strange for some readers. In many cases, the working relationship does not fit a traditional label.

The relationship in Figure 28.8 can occur when a large Contractor bids work for small entities, such as small town municipalities, small chemical processing plant expansions, and certain local government projects. In these events, the Contractor is likely to be in a position to lead the “Operator” through the project management process. These are the cases where unscrupulous Contractors take advantage of less knowledgeable people.

In some instances, as shown in Figure 28.9, the Operator can be overrun by a Contractor. Operator personnel are directed by the Contractor, the site safety program becomes a secondary consideration and support staff take direction from the Contractor supervisors. Examples of this include various emergency responses, hazardous material (HazMat) incidents, well blowout control, and so on. It is a good idea to plan ahead for this and to make allowances in the emergency response plan.

28.2.5

Typical Issues and Special Considerations

28.2.5.1 But What About . . .

Fairly often, when implementing a management system you will find situations that were not part of the project plan. This section of our discussion focuses on some of the issues that can be expected during the implementation of a

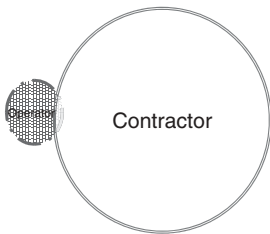


Figure 28.8 Big frog, small pond.

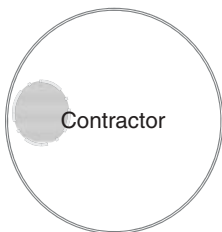


Figure 28.9 Big frog, no pond.

Contractor safety management system. The issues often come to light when local management reviews their Contractors and they open the conversation about the new management system with, “But what about . . . ” The reader should note that this section is written specifically for Operators. The examples and language are specific to the Operator perspective and may not apply to others. The term “you” refers to “you” the Operator representative and “your” personnel or locations. In the oil and gas industry, it is common to refer to operations and personnel in the first person, denoting ownership and personal interaction.

28.2.5.2 Mom and Pop

The “Mom and Pop Shop” appears frequently in the Contractor Management business. The further removed from major cities we operate, the more common is the occurrence. In some cases, the label is exactly accurate. In one case, Mom drives the local school bus in the morning while Pop is opening the service shop. He drives the bus while she does the accounts in the evening. They went to school with the parents of most of your local supervisors. They taught the Sunday School class, hosted Scouts for some of your local workers, and their kids played on the team that went to the state championship game with half of your local workforce. They are hometown heroes and they do not have a safety program. They may or may not have Worker’s Compensation insurance. Most Contractor safety management grading schemes would fail them.

They do not have a safety program but they provide the best service of their type in the area. They are cheaper than the competition. They never let your local manager down and have worked weekends lots of times to keep your doors open. Your system just gave them a red light and your manager says, “But what about . . . ” What are you going to do?

28.2.5.3 Off-Site Services

What do you do about a specialty service company who never comes on to your site? They are the best of their type in the area but do not have a strong written safety program. Perhaps your local supervisors order specialty equipment, supplies, or custom services from them.

28.2.5.4 The Only Game in Town

Most industry segments have examples of specialty service Contractors who fill a particular niche. They may build, sell, rent, and service specialty equipment or they may manage a fleet of high-quality and very expensive tools. In many cases their equipment and services are needed to resolve a crisis promptly. Companies with a history of success in this line of work are able to provide high-quality equipment with highly skilled workers at relatively short notice. The company may or may not have a formal safety program. This company may not be the only Contractor around, but they may very well be “the only game in town” which provides a particular service. In many remote areas, the local service company may literally be

the only game in town. The successful Contractor Management program should account for this situation.

28.2.5.5 Apples to Oranges

One of the most challenging issues that arises between operators and Contractors is making an “apples to apples” comparison between companies. Each of the program elements and evaluation criteria can unrealistically penalize a Contractor if the grading system is not perfect. Potential conflicts and unrealistic comparisons can be conducted in any of the following:

- large company versus small company
- local company versus one new to the area
- specialty service Contractor versus general Contractor
- inside the fence versus running loose.

28.2.5.6 Decisions Made in a Vacuum

Beware decisions made in a vacuum. If you are a safety professional who is planning to develop and implement a Contractor Management program, you should solicit input from the operations personnel who must live with the program. If you are a Contractor who is designing a program, make sure that you get some input from your potential customers. If you find yourself strangled by a program that does not work, where line supervisors ignore the guidelines and make decisions with no regard to safety performance, you need to break the vacuum and circulate some fresh air.

28.3

The Score: Questionnaires and Contractor Ranking Systems

28.3.1

Introduction

28.3.1.1 Scoring Systems

Most Operators use compare EHS-related data to evaluate a Contractor and compare companies competing for assignments. This section provides a brief overview of various data sets, but it should be kept in mind that not all data sets are used in the evaluation process. Some Operators use more than one display scheme, and very few utilize the same formula.

28.3.1.2 Data Set 1 – Component Score

The concept is simple: every company should have a functional safety program. The safety program should have certain functional elements. If you identify the elements that everyone should have, you can quantify the effectiveness of a safety program. The key is for you to determine which elements are important and what “functional” means: you must define what each functional element looks like.

The comparison can be based on any safety management system. Some of the processes that can be used as a basis include the following:

- ANSI Z10
- OHSAS 18001
- PSM (Process Safety Management) elements
- ISO standards
- American Petroleum Institute (API) (RP75, Bulletin 75L, SEMS, etc).

28.3.1.3 Data Set 2 – Loss Metrics

The belief that past behavior is a reliable indicator of future performance is the foundation of using loss metrics to grade Contractor performance. Examples include:

- TRIR – Total Recordable Incident Rate
- DAIR – days away incident rate
- TVIR – total vehicle incident rate
- EMR – experience modification rate (worker's compensation)
- Fatality rate (often overlooked and not always included in TRIR)
- DART (days away, restrictions, and transfers) + fatality.

Typically, US domestic injury rates are based on incidents per 200 000 man-hours and some international metrics produce an Incident Rate based on 1 million man-hours.

28.3.1.4 Ranking System 1 – Color Codes

In its simplest form, each Contractor is evaluated based on available data and assigned a color code:

- Green means GO; it is available for any work that fits within the agreed upon operational protocol.
- Yellow also means GO, but with certain limitations such as a maximum expenditure with the Contractor or it can only be used for certain types of work.
- Red means STOP, with certain limitations. Typically, a process is established that will allow the use of the service provider based on business need and risk control. In this case, some sort of program override is required, usually an executive-level signoff and/or detailed scrutiny by someone in a safety role.

28.3.1.5 Ranking System 2 – Letter Grades

This is a similar concept to the color code system, but you may have four or five buckets (groups of similar data points; A, B, C, D, or E) for the Contractors. The higher grades are automatic choices, first call for services. In some cases, the only difference between A and B is the pre-approved spending amount or project size.

28.3.1.6 Questionnaires

Questionnaires are intended to capture information and some Operators use them also to grade the Contractor. Questionnaire data can be grouped into three categories:

- Company information; who are they, where are they, who do you call, North American Industry Classification System (NAICS) codes, and so on.
- Loss metrics (see Data Set 2 above for examples).
- Safety Program details; documented programs, training records, handbooks, orientations.

Over the years, as Contractors grew in size and performed work for more and more Operators, it became apparent that a lot of energy was being expended on completing nearly identical questionnaires for numerous Operators. In an attempt to streamline the process, various consortiums were formed with the goal of consolidating the questionnaires. The streamlining effort has become complicated because the questionnaire should fit everyone, so it must contain questions from everyone. Thus, if Operator A has a PSM facility, and Operator B has a pipeline and needs an Operator qualification program, and Operator C has operations in the Gulf of Mexico, and Operator D has operations in California, . . . the questionnaire could be very complicated. The downstream segment of the industry has been working on this issue for a couple of decades with various construction associations.

Some companies use one of the industry standard questionnaires and some use an internally developed version. The industry questionnaires have been adopted by several companies whose primary business is managing Contractor safety data. The Operators and in some cases the Contractors pay a service fee to be part of the system. Some of the industry questionnaires utilize several hundred questions that drill down to the program details on some of the compliance issues mentioned above. The API publishes a Contractor safety questionnaire and various safety standards related to Contractor safety management. These two resources are inclusive of most questionnaire items used in several industries.

As noted in this section, safety questionnaires capture loss metrics, which have become the primary consideration for many companies evaluating a Contractor. Within the industry, a considerable amount of energy is being focused on developing safety performance indicators that will provide ways to measure incident prevention techniques in addition to failure rates. Various industry associations, including the API, ANGA (America's Natural Gas Alliance), AXPC (American Exploration and Production Council), IADC (International Association of Drilling Contractors), and AESC (Association of Energy Service Companies) are involved in these projects. Included among the internationally available resources is the OGP (International Association of Oil and Gas Producers), a UK-based organization that has developed and published performance indicators.

28.3.2

Formulas**28.3.2.1 Formula 1 – Equal Weights on 100% Scale**

$A + B + C + D + E + F + G = 100\%$, or something similar. Select relevant loss metrics and/or component scores, apply an equal percentage weight to each item and you have a simple and easy-to-use formula. The example in Table 28.1 is not a realistic and complete scoring system, but will serve to illustrate the concept.

It is a nice theory, but many safety professionals who start with this easy approach fine tune the process for the simple reason that certain evaluation criteria warrant more serious consideration than others. For example, consider the first item, crane operator qualification. If the Contractor does not operate a crane at your location, this may not be a relevant item to score. However, if they will run cranes on location and they do not have this program in place, then it is a critical item. All things considered, if you do not have a formal Contractor evaluation system, this is an easy place to start.

28.3.2.2 Formula 2 – Equal Weights, 100 Minus Demerits

$100 - (A + B + C + D + E + F + G \dots) = \text{Score}$. At first glance, this may look just like Formula 1; however, this system is not percentage based and can actually reach a negative value.

The benefit of this approach is clear weighting of each item without trying to balance percentages. Also, it avoids the debate about how to resolve two companies with identical scores, which can happen frequently in other systems. One obvious drawback is user familiarity, or lack of. Most of us are conditioned to think that a score on a 100 point scale must stay between 0 and 100.

This formula can be set up with a pass/fail score, it can be based on red light/green light, or it can be put into the letter grades format. Formula 1 can also be based on any of the formats, but it lacks the flexibility of Formula 2. With Formula 2,

Table 28.1 Equal weight formula.

Item		Value	Score
A	Crane operator qualification program	10	0
B	Forklift operator training program	10	10
C	Lockout/tagout program	10	10
D	Electrical awareness training	10	10
E	Hazard communication program	10	10
F	Confined space training program	10	0
G	H ₂ S training	10	0
H	EMR < 1.0 = 20	10	10
I	TRIR < 1.75	10	0
J	Insurance policy > \$1 million	10	10
	Total	100	60%

scoring items can be added or removed without reformatting a balanced percentage scale.

28.3.2.3 Formula 3 – No-Go Items

This is a potential subset of Formula 1 or Formula 2: a certain criterion automatically ends the selection process for a Contractor. For example, if an EMR of 1.0 is a basis for No-Go, all other items can be in an acceptable range, but any Contractor with an EMR above 1.0 is on the D list, or has a Red Light. (EMR is the Experience Modification Rate from the Worker's Compensation insurance policy.)

This concept can be blended with Formula 2. For example, if you set up a pass/fail score of 70, simply set the value of each No-Go item at 30 points. It will help Contractors improve their safety program score if the Operator clearly communicates expectations regarding each of the No-Go items.

One benefit of this approach is speed. It may be surprising how quickly you can high-grade the Contractors and come up with the bid shortlist. Be aware that the price of efficiency can be effectiveness; this approach is limited to the skill of the person who designs the No-Go criteria. Of course, we want to identify the best and safest Contractors, but it is easy to cut very good companies who have one minor statistical blip or do not have a particular program documented. This system is particularly vulnerable to data handling errors, whether numbers are entered incorrectly or simply misinterpreted.

28.3.3

The X-Factor: Taking a Hard Look at Loss Metrics

28.3.3.1 Data Display: Keep it Clear and Simple

Good, accurate safety data are important, but too much of a good thing can stop the machine. If the data display is too difficult to read, the human response is to ignore the report, or simply ignore the system. It can be very helpful to use color codes and simple grading schemes for data display.

A report that communicates the evaluation of a Contractor (or comparison of Contractors) should clearly communicate relevant information, that is, answer the following:

- **Overall impression:** should we use this company.
- **Risk:** have you identified any risk issues that should be managed.
- **Past history:** have we used them before, how much have we spent, what was their performance.

28.3.3.2 Loss Metrics

Incident rates and EMR are points of contention, but they also seem to be brought up in most conversations about Contractor safety programs. Table 28.2 is a simple method to display both current data and historical performance. The problem with this sort of display is that most people cannot immediately grasp the cause and

Table 28.2 Sample loss metrics.

	2011	2010	2009	2008
(a) Fatalities	0	0	0	0
(b) EMR	0.98	0.87	0.77	N/A
(c) DAIR	0.3	0.5	2.09	0
(d) TRIR	1.98	1.75	1.41	1.33
(e) Man-hours	455 000	400 386	286 921	112 776

effect between each data point. A better method of illustration is needed, which is explored below.

28.3.3.3 The X-Factor: a “Secret” Formula for Grading Contractors

This formula considers the Loss and Risk metrics evaluations discussed previously; the data display concepts discussed, and combines each with a new concept. The new concept, the “X-factor,” is derived by identifying undesirable safety performance trends from previous years. Simply put, if a company’s work load increases year over year, and they experience increasing injury rate year over year, then they are more likely than a peer to experience more severe losses.

To explain the “X-factor” another way: if the injury frequency and the injury severity and the workload for a Contractor have increased two years in a row, then the company is at higher risk for continued losses.

Consider an inverse explanation of this theory. . . if the company has an effective safety program, workload can increase any amount and the loss rates will stay the same. Figure 28.10 is populated with data from Table 28.2. Items B, C, and D are not alarming, but each “X factor” is identified so it would be prudent to further

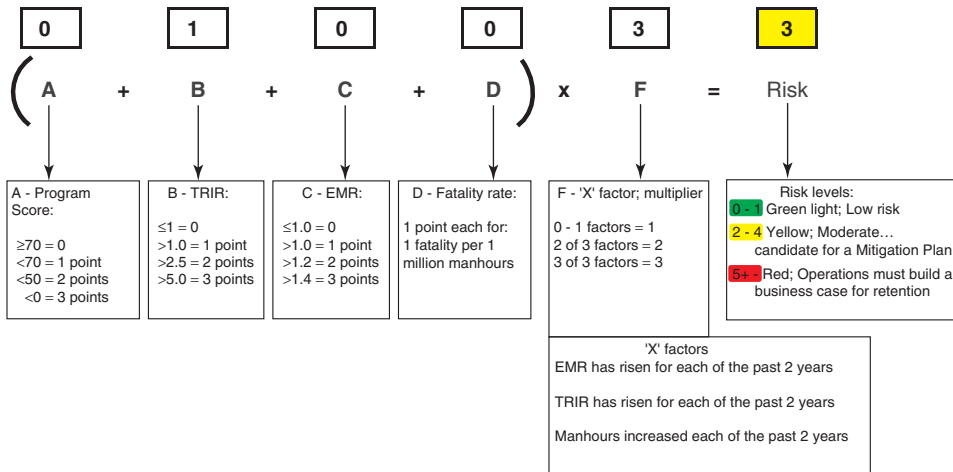


Figure 28.10 The 'X' Factor; Contractor risk level formula.

evaluate the safety programs of this company. If the trends continue, next year each data point will be above zero with a total risk level of 9.

As you experiment with the formula, it is likely that you will learn that the exact scale of items A–D, as shown in Figure 28.10, is not important, provided that it is applied consistently. You can adjust the formula to fit the needs of your assessment protocol. Program scores are specific to the Operator and the scoring system they use; injury rates vary widely depending on the industry segment. The same can be said for EMR. Fatality rate can be very difficult to weight in a formula, so adjust it according to your industry statistics.

28.3.3.4 Comparing Multiple Companies

Comparing more than one company can be challenging, especially if they are significantly different in size. The formula can be used to compare several peers, regardless of size. Figure 28.11 illustrates how the formula can be used to compare several companies.

A good Contractor selection program should help the Operations Management compare otherwise qualified Contractors and make a reasonable comparison between the effectiveness of their safety programs. In other words, the data should answer the question, “which of these Contractors has a good safety program?” Provided with this information, Operations Management can make a business decision based on competitive bids. The reader should keep in mind that in

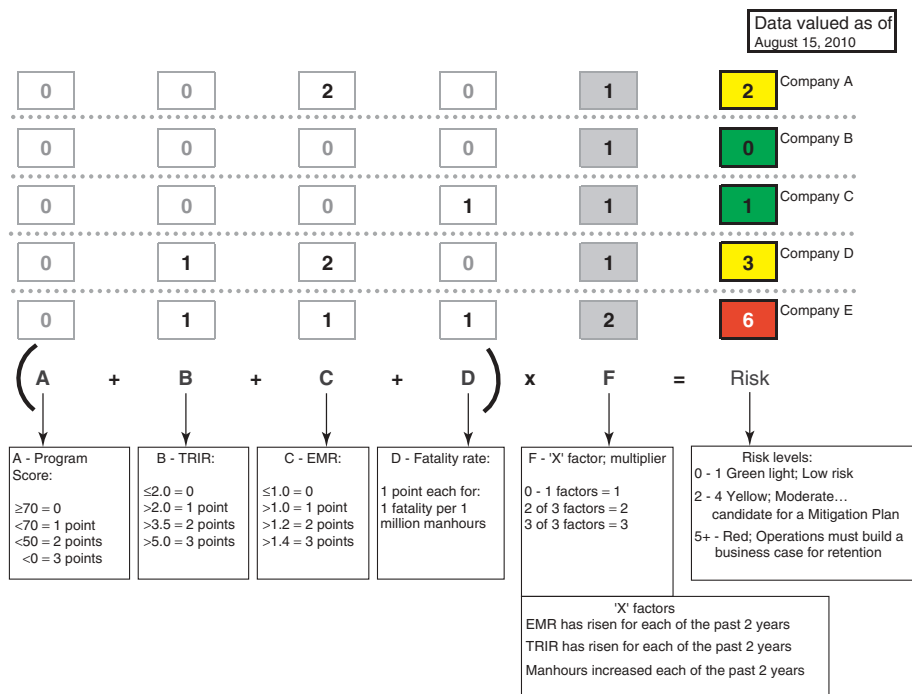


Figure 28.11 Contractor risk level formula with five companies.

order to serve the business needs of the Operator, the Contractor selected from the field of competitors must be able to do the job in a manner that produces profit for the Operator. Consider the following question: “What would happen if an Operator repeatedly hires low-bid Contractors who *safely* perform *poor-quality* work or otherwise cause lost production?” The answer is that the Operator would eventually go out of business because they cannot operate in a competitive market in this manner. Any Operator is in business to generate profits for stakeholders, while the more prudent and ethical Operators strive to do so while providing a safe work environment for workers on-site.

If information is available to the Operator regarding Contractor performance on-site, it can be more valuable than data provided in a questionnaire when comparing multiple Contractors. For example, one Contractor may disclose a favorable injury rate in their corporate statistics but numerous incidents and equipment failures were reported by the Operator’s field personnel, which equates to a lower or unfavorable injury rate. Or, a Contractor may have marginal corporate injury statistics but your field supervision prefers the quality of their work over the competition.

Some people think of Contractor evaluations as a process that applies to new companies and the evaluation techniques may not be applied to the existing pool of approved Contractors. In addition to the loss metrics discussed previously, an additional data point to consider is “spend.” “Spend” is simply the amount of money spent by the Operator with a particular Contractor. Assume for the sake of this discussion that you are evaluating bids between several Contractors on your approved vendor list. If you make note of the “spend” for each Contractor, it may help with the decision as to which company to hire. Consider an evaluation of three comparable companies and assume that each company provides a special service that is difficult to acquire. Also assume that all three companies have mediocre safety records according to the results from the corporate safety questionnaire. Companies A and B have worked for you sporadically over the past 2 years and some undesired incidents have been documented during that time. Company C has worked for you consistently over the same time period with less downtime, better operational performance, and very few incidents. The spend for A and B combined is less than that for company C. Keep in mind that spend is just one data point and overall quality of work performed is more important than the amount of money spent with a company.

28.4

Summary and Conclusion

28.4.1

“Does the Rubber Meet the Road?”

The catch phrase “does the rubber meet the road?” is a simple question that refers to the genuine effectiveness of a plan. Consider a tire: without going into a detailed engineering analysis, we can agree that in order for the tire to work properly it should be round, mounted on a wheel, and securely fixed to the axle of a vehicle. It

should also rest on the ground and proportionally share the weight of the vehicle with the other tires. Hence, if everything with the tire is going as planned, “the rubber meets the road” and the vehicle moves forward. In the realm of Contractor Management, the rubber meets the road if the Operator can demonstrate that personnel employed by their Contractors of choice are working in a safe and effective manner to move their business objectives forward.

28.4.2

Conclusion

A decision must be made as to whether the Operator is organizing a Contractor safety program or a Contractor management program. Contractor safety can be managed with an onboarding program coupled with periodic reviews and audits. Contractor management is much more complicated and should incorporate Contractor safety as a primary element in the system. An effective management system will incorporate the functional elements of the process model, which may be complicated with numerous stages or used in the simplest format of “Plan, Do, Review, and Act.” The effective Contractor management system will ensure that the Operator selects qualified Contractor companies who provide adequate services to the business while maintaining a safe work environment for all affected employees.