# Saving Money with Environmental Due Diligence

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*Rules and regulations that govern how we use our natural resources have been with us for many years. As a society we no longer take clean air, clean water, or clean land for granted. Many of the now-known environmental problems associated with certain industrial and business practices, however, are not discovered until a company is ready to buy or sell a property. For this reason, environmental due diligence has taken its place alongside financial due diligence in real estate transactions.* CryoGas International *invited two industry experts to explain this process to our readers. Neil Ram is a Vice President of Roux Associates, an environmental consulting firm that offers services in site investigation, remedial design and construction management, litigation support, regulatory compliance, and hazardous waste clean up. Gary T. Gann is General Counsel for Matheson Tri-Gas and has been involved in environmental due diligence relating to acquisitions within that company.*

Buying and selling property successfully today requires more than knowledge of real estate and market opportunities. While the trilogy of a successful real estate transaction was once recognized as "location, location, location," a new trilogy of environmental terms has arisen that can determine the ultimate success or failure of a business acquisition: (1) All Appropriate Inquiry (AAI); (2) environmental compliance and (3) cost-to-closure. The complexity of environmental law and regulation often compels prospective buyers to conduct due diligence of both the business aspects of an opportunity, as well as its environmental risks and associated liabilities. The legacy of historical chemical releases from industrial operations can turn a golden business opportunity into a regulatory nightmare. Alternatively, a thorough evaluation of the environmental conditions and operations of a facility can provide fertile ground for informed negotiations resulting in favorable business outcomes. This is particularly true in the industrial gas industry where mergers and acquisitions can result in synergies for improved business or a quagmire of environmental liability.

## ALL APPROPRIATE INQUIRY

Many industrial professionals know that it is prudent to conduct a 'Phase I' Environmental Site Assessment (ESA) before buying a property to determine the potential presence and magnitude of chemical contamination. The elements of Phase I ESAs were previously defined by the American Society for Testing and Materials (ASTM) Standard E 1527-00 ("Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process). The goal of the ASTM E 1527-00 Phase I was to identify "Recognized Environmental Conditions" or "RECs," where the presence, or likely presence of hazardous substances or petroleum products, indicated an existing release, a past release, or a material threat of a release of these substances. The ASTM E 1527-00 Phase I standard was recently updated to ASTM E 1527-05 (November 1, 2005), with the simultaneous promulgation of the United States Environmental Protection Agency's (EPA) "Standards and Practices for All Appropriate Inquiry" rule or "AAI" (see *Federal Register* Vol. 70, No. 210, November 1, 2005). The new EPA AAI rule, which becomes effective on November 1, 2006, provides additional requirements to identify conditions indicative of releases, or threatened releases, of petroleum products and/or hazardous substances on, at, in, or to the subject property. In developing AAI, the EPA expanded upon the ten specific criteria identified by Congress in the Brownfields Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for achieving the AAI standards of CERCLA Section 101(35)(B). The new standards and rules involve a greater level of effort than the former requirements.

AAI must be conducted by an "environmental professional" (EP) who possesses "sufficient specific education, training, and the experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of a release, or threatened release, to the surface or subsurface of a property, sufficient to meet the objectives and performance factors." The EP must also hold certain degrees, or be practicing within this field, for a certain number of years including: (1) a Professional Engineer's (PE) or Professional Geolo-

gist's (PG) license or registration, plus three year's of full-time relevant experience, or (2) a license or certification to perform environmental inquiries, plus three years of full-time relevant experience, or (3) a Baccalaureate or higher degree in engineering, environmental science or earth science, plus five years of full-time relevant experience, or (4) a Baccalaureate or higher degree plus 10 years of full-time relevant experience.

AAI requires that the following be conducted by the environmental professional:

- Interviews with past and present owners, operators, and occupants;
- Reviews of historical sources of information;
- Reviews of federal, state, and local records; and
- Visual inspections of the facility and adjoining properties.

The environmental professional must also consider "commonly known or reasonably ascertainable information about the subject property" and "the degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation." The EP must also rely on information provided by the person commissioning the report regarding the following:

- Information regarding environmental liens against the subject property that are filed or recorded under federal, tribal, state, or local law;
- Relevant and applicable "specialized knowledge or experience" regarding the property; and
- The relationship of the purchase price to the value of the property if the property was not contaminated.

The EPA AAI rule and the new ASTM E 1527-05 require the environmental professional to identify significant data gaps and recommend further data collection where needed. ASTM E 1527-05 continues to require the EP to identify known or suspect RECs and historical RECs and de-minimus conditions. (Some activities, if properly managed, are considered to be de-minimus, that is, of minimum importance with respect to environmental impact. These activities, while not regulated, must still be identified.)

What does AAI mean to a prospective buyer? First, AAI will provide a more thorough investigation of potential environmental problems and associated liabilities at a property, but this will likely require more time and come at greater cost to the buyer. Second, results of the AAI may require that environmental samples be collected before a final determination can be made about environmental impacts on the property. Further, information in the AAI report will have a "shelf life" and certain environmental information will need to be updated within six months for the report to be considered acceptable. The good news is that AAI will provide a more rigorous investigation of the property thereby giving the prospective buyer greater confidence in the results and recommendations provided in the AAI report.

## FACILITY COMPLIANCE

A compliance audit differs from a Phase I ESA in that it focuses on whether facility operations comply with local, state, and federal regulatory requirements rather than the presence of environmental contamination. The compliance audit identifies the pertinent regulatory requirements for a facility's operation and then identifies the deficiencies and associated costs to bring it into compliance. Typically, a compliance audit focuses on:

- **Production operations** — that generate or, in some way, influence management of wastes and other effluent streams;
- **Waste management systems** — both on-site and off-site, that are subject directly to regulatory requirements;
- **Environmental permits** — that specify operating conditions and emissions/effluent limitations for releases, disposal, or discharges to various environmental media;
- **Substances or materials** — that are the focus of regulatory programs;
- **Environmental lawsuits, complaints, and violations** — in which the plant has been, is currently, or will potentially to be involved; and
- **Prior waste management practices** — that may pose potential liabilities for clean up and third party damages.

The compliance audit then reviews the facility's compliance with specific regulatory requirements applicable to facility operations and waste management practices including:

- **Air Pollution Control** — regulated under the Clean Air Act (CAA), includes reviewing air discharge permit requirements, discharge limits, reporting requirements exceedances, and the potential need for equipment upgrades;
- **Water Pollution Control** — regulated under the Clean Water Act (CWA), evaluates discharge permits (National Pollution Discharge Elimination System, "NPDES"), discharge limits, reporting requirements and the potential need for pre-treatment;
- **Hazardous Waste Management** — regulated under the Superfund Reauthorization Act (SARA), includes 'worker-right-to-know' requirements, the Resource Conservation and Recovery Act (RCRA), manages the use and disposal of hazardous waste from "cradle to grave" and the Comprehensive Environmental Response and Liability Act (CERCLA) that addresses off-site disposal at abandoned waste sites to which a facility may historically have sent their wastes;
- **Solid Waste Management** — identifies appropriate classification of materials and conformance with state guidelines;
- **Storage Tanks (Underground and Aboveground)** — regulated under both State and Federal law, includes closure of former tanks, registration of existing tanks and conformance with Federal/State construction/monitoring/closure requirements;
- **Materials, Products and Pesticide Storage** — addresses conformance with CWA Stormwater Pollution Prevention Planning including Spill Prevention Control and Countermeasure (SPCC) plans requirements and SARA storage and reporting requirements;
- **Past Disposal Practices** — assesses potential liability associated with past onsite and offsite disposal of wastes and wastewater;
- **Polychlorinated biphenyls (PCBs)** — regulated under the Toxic Substance Control Act (TSCA), includes a visual inspection of potentially PCB-containing transformers, light ballasts, switchgear and potential releases from these; and
- **Asbestos** — includes visual observations regarding the potential presence or absence of observable, friable, potential asbestos-containing-material (ACM).

| Example Compliance Summary Table for the PuroGas Facility | | | | |
|---|---|---|---|---|
| Medium | Status | Compliance issue | Corrective Action | Estimated Cost |
| **Underground Storage Tanks (UST) Aboveground Storage Tanks (AST)** | • One, 5,000-gallon gasoline UST<br>• Two, 2,000-gallon propane ASTs | • UST: last tightness tested two years ago<br>• Can't locate propane operating permit | • Arrange tightness test and evaluate need for cathodic protection system<br>• Re-apply for propane permit | • UST: $1,000<br>• AST: $500 |
| **Asbestos** | • Unknown | • No asbestos survey conducted to-date | • ACM*** survey to be scheduled | • $2,000 including sampling for ACM |
| **CWA** | • Two, NPDES* permits | • Monthly monitoring reports indicate permit exceedances | • Purchase package pre-treatment unit | • $15,000 capital cost and $3,000/year |
| **CAA** | • One air discharge permit<br>• Form R** required | • Air permit will expire in six months<br>• Form R's not submitted to-date | • Submit air permit renewal<br>• Conduct inventory of plant fugitive emissions and complete Form R | • Air Permit: $2,000<br>• Emissions inventory and calculations; Form R Submission: $5,000 |
| **TOTAL COST TO CURE** | | | | **$25,500**<br>$3,000/year O, M & M**** |

* NPDES = National Pollution Discharge Elimination System, **Form R is the document that reports air emissions to the USEPA from industrial facilities, ***ACM = Asbestos Containing Material, ****O, M&M = Operation, Maintenance and Monitoring,

Figure 1 Source: Neil M. Ram and Gary T. Gann

Due to the complexity of these multi-media requirements, a summary table, Figure 1, is a useful tool to capture the multiple requirements, status, needs and actions needed to bring a facility or multiple facilities into compliance.

A thorough and methodical evaluation of the multi-media compliance issues identifies the actions needed and associated costs to bring a facility into compliance. Costs-to-cure environmental contamination (from the Phase I ESA) and non-compliance issues can then be considered in the purchase price or addressed in the purchase and sale agreement.

## ESTIMATING COSTS

Knowing the anticipated cost to cleanup a contaminated property, or to remedy compliance issues with facility operations, can save prospective purchasers money. This is achieved by negotiating a discount to the purchase price according to the anticipated costs to cure. Cleanup costs consist of (1) additional site assessment, (2) remediation including capital, operation, maintenance, and monitoring (O, M & M), (3) permitting, (4) agency oversight costs and regulatory compliance fees, and (5) legal costs. In some cases Natural Resource Damage (NRD) costs may also need to be considered. Rectifying compliance deficiencies typically consists of permitting, reporting and sometimes the need for engineering upgrades.

Four methods for projecting future costs (see Figure 2) are described in ASTM's "Standard Guide for Estimating Monetary Costs and Liabilities for Environmental Matters: ASTM E 2137-1," 2001. This cost estimation standard is used as a guide in the environmental industry.

**ASTM E2137-01 Cost Estimating Methodologies**

- Expected value (EV)
- Most Likely Value (MLV)
- Range of Values
- Known Minimum Value

Figure 2 Source: ASTM

- The **Expected Value** is derived from a decision tree or simulation model of potential event outcomes and associated costs. It is then calculated using the distribution of costs and associated probabilities of each potential outcome.
- A **Most Likely Value** utilizes the costs for the scenario considered to be most likely to occur (i.e., the preferred or selected technology).
- A **Range of Values** is used when the probabilities or ranking for various outcomes cannot be determined.
- The **Known Minimum Value** is used when, "the outcome and cost uncertainties are so great that it is premature to estimate a range of values or a most likely value."

Allowances for contingencies and uncertainties are included in developing cost estimates. Cost databases, such as the RACER system ("Remedial Action Cost Engineering and Requirements Software" by EarthTech), provide useful tools for estimating future cleanup costs. Alternatively, actual final (incurred) costs, or costs determined by insurers or other entities who have assumed the liability for final cleanup, can be used.

## PUTTING IT TOGETHER

There are three answers to the question, "Do I really need to know about all these environmental problems?" Yes, yes, and yes. First, as a new owner or operator of a property you will potentially be liable for environmental contamination even if it occurred prior to purchasing the operation or property. Secondly, failure to operate a facility within regulatory requirements puts you at risk of violations and penalties. Thirdly, knowing what it will cost to cleanup the site and rectify the regulatory issues gives you the opportunity to negotiate a discounted purchase price or to place the burden of curing the problems with the current owner even after completing the transaction.

**The following are two examples of how careful environmental due diligence can effect price and negotiations in the purchase of gas facilities.**

**Example #1: Acquisition of Multiple Gas Manufacturing and Distribution Facilities**

As part of due diligence activities, a prospective purchaser of multiple

acetylene and specialty gas facilities retained Roux Associates to review Phase I ESA reports completed by another consultant to identify (1) the likelihood of chemical site contamination, (2) whether the contamination triggered state or federal reporting requirements, (3) the costs to cleanup reportable contamination, (4) regulatory non-compliance issues, and (5) the specific actions and costs needed to bring the plants into compliance. This information was used in negotiating the purchase price of the acquisition and in assigning certain future cleanup actions to the seller. One of the target properties was also eliminated from the acquisition because of the large uncertainties about the extent of contamination and potential cleanup costs.

**Example #2: Contamination Identified in Wetland Adjacent to Specialty Gas Facility.**

A forensic evaluation at a specialty gas facility conducted by Roux Associates, established that site contamination resulted from chemical discharges during historical operations conducted by a previous operator rather than current plant operations. Contamination on an abutting property was also determined to be unrelated to current plant operations. A cost sharing arrangement with the historical operator was established to fund site cleanup and achieve site closure. Technical evidence was also presented to the State environmental agency to establish that the abutter was responsible for performing a separate cleanup. Cost savings were achieved via the cost sharing agreement and by dissociating facility operations with the abutter's contamination.

## CONCLUSION

How will due diligence save you money? Due diligence provides you with knowledge about potential or actual contamination. It arms you with the information you need about the requirements to achieve regulatory compliance and its costs. It identifies your potential liability to any environmental problems before you purchase the property. This knowledge gives you leverage in your transactional negotiation and provides important contractual protection. It can even save you from making a purchase that you would later regret, as environmental due diligence sometimes identifies problems and risks that are too great or too uncertain to close the deal.

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