



VALUATION OF MACHINERY AND EQUIPMENT



THE APPRAISAL FOUNDATION

*Authorized by Congress as the Source of Appraisal
Standards and Appraiser Qualifications*

You may want to retain an appraiser to develop an opinion of value to assist you in setting a price for the purchase or sale of machinery and equipment. Lenders are required to obtain an appraisal, prepared by an impartial and unbiased appraiser, and use it as the primary tool for assessing the sufficiency of the collateral. You may need a fair value appraisal for financial reporting or a documented fair market value for property tax purposes.

The purpose of this brochure is to help you understand a machinery and equipment appraisal. After reviewing this brochure, you will understand the definition of a credible appraisal, the appraisal process, the elements of a credible appraisal report, the importance of appraiser independence, and how to proceed if you think a correction or clarification should be made to the appraisal report.

*This brochure was produced by The Appraisal Foundation. The Foundation sets the Congressionally-authorized standards and qualifications for real estate appraisers, and provides voluntary guidance on recognized valuation methods and techniques for all valuation professionals. This work advances the profession by ensuring appraisals are independent, consistent, and objective. More information on The Appraisal Foundation is available at **www.appraisalfoundation.org**.*



WHAT IS MACHINERY AND EQUIPMENT?

Machinery and equipment is defined as:

The physical facilities available for production, including the installation and service facilities appurtenant, together with all other equipment designed for or necessary to its manufacturing and industrial purposes, regardless of method of installation, including all those items of furniture and fixtures necessary for the administration and proper operation of the enterprise.¹

An additional definition of machinery is:

a term encompassing Man-made mechanical devices, usually powered, which are designed to create a product or in some manner alter the state of a material or partial product.²

An additional definition of equipment is:

all machinery and other apparatus or implements used in an operation or activity.³

Based on these definitions, all machinery is equipment, but all equipment is not machinery.

Simply stated, machinery and equipment is the tangible personal property of an industrial or commercial enterprise. Tangible property is property that you can

¹ Valuing Machinery and Equipment, American Society of Appraisers, 2005

² Ibid.

³ Ibid.

touch that is not classified as real estate. In this context, machinery and equipment is sometimes referred to as business personal property. Business personal property is the term commonly used in property tax assessment.

WHY DO I NEED A MACHINERY AND EQUIPMENT APPRAISAL?

Here are some of the scenarios in which a machinery and equipment appraisal would be required:

- Finance
- Purchase Price Allocation
- Litigation
- Property Tax
- Divorce
- Charitable Donation
- Purchase Negotiations
- Buy/Sell Agreements
- Establish Depreciation Schedule for Income Tax Purposes
- Internal Financial Reporting

An appraisal is an opinion of value.⁴ In many cases, machinery and equipment is appraised because an opinion of value is required to establish a price for a purchase or sale, for financing purposes, or for financial reporting requirements. If a business owner is requesting a loan from a financial institution and is offering machinery and equipment as collateral, the financial institution will require an appraisal to assess the adequacy of the collateral.

In litigation proceedings in which the value of an item or group of machinery and equipment is a key issue, it is unlikely that an opinion of value provided by the parties involved in the litigation would be acceptable. Instead the court would want the opinion of an independent third-party expert, an appraiser.

In the case of a business merger or combination, when one business is acquiring another or businesses are combining, it is a Financial Accounting Standards requirement that the purchase price be allocated to the tangible and intangible property included in the transaction. Tangible property consists of the machinery and equipment and the real property. Intangible property includes all items of value in a business that are not tangible assets and could include stock, bonds and goodwill which is the value of contracts, brand value, and reputation. Professional appraisers can provide opinions of the value of these various property types.

⁴ USPAP 2014–15 Edition. Page U-1, line 8. The Appraisal Foundation.

COMMON DEFINITIONS OF VALUE FOR MACHINERY AND EQUIPMENT APPRAISAL

Machinery and equipment can be valued on either the basis of removal or on the basis of staying in place. The following definitions of value were adopted by the *Machinery and Technical Specialties Committee of the American Society of Appraisers* on July 25, 2010. These definitions are recommended for use in machinery and equipment appraisals but their use is not mandatory. Your appraiser will provide you with a scope of work and a value definition based on the intended use of the appraisal.

Reproduction Cost New – The cost of reproducing a new replica of a property on the basis of current prices with the same or closely similar materials, as of a specific date.

Replacement Cost New – The current cost of a similar new property having the nearest equivalent utility as the property being appraised, as of a specific date.

Fair Market Value – An opinion expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, as of a specific date.

Fair Market Value in Continued Use with Assumed Earnings – An opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, as of a specific date and assuming that the business earnings support the value reported, without verification.

Fair Market Value in Continued Use with an Earnings Analysis – An opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, as of a specific date and supported by the earnings of the business.

Fair Market Value – Installed – An opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, considering market conditions for the asset being valued, independent of earnings generated by the business in which the property is or will be installed, as of a specific date.



Fair Market Value – Removed – An opinion, expressed in terms of money, at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, considering removal of the property to another location, as of a specific date.

Liquidation Value in Place – An opinion of the gross amount, expressed in terms of money that typically could be realized from a properly advertised transaction, with the seller being compelled to sell, as of a specific date, for a failed, non-operating facility, assuming that the entire facility is sold intact.

Orderly Liquidation – An opinion of the gross amount, expressed in terms of money, that typically could be realized from a liquidation sale, given a reasonable period of time to find a purchaser (or purchasers), with the seller being compelled to sell on an as-is, where-is basis, as of a specific date.

Forced Liquidation Value – An opinion of the gross amount, expressed in terms of money, that typically could be realized from a properly advertised and conducted public auction, with the seller being compelled to sell with a sense of immediacy on an as-is, where-is basis, as of a specific date.

Salvage Value – An opinion of the amount, expressed in terms of money that may be expected for the whole property or a component of the whole property that is retired from service for possible use elsewhere, as of a specific date.

Scrap Value – An opinion of the amount, expressed in terms of money that could be realized for the property if it were sold for its material content, not for a productive use, as of a specific date.

In appraisals for collateral purposes, machinery and equipment is sometimes valued on a liquidation basis. Lease transactions and many forms of litigation require an appraisal on the basis of fair market value.

THE APPRAISAL PROCESS

First, your appraiser will interview you regarding the reason you require an appraisal. Many people consult an appraiser saying, "I just want to know what it is worth." The appraiser will explain the many levels of "worth" or value, such as the market value of machinery and equipment in continued use or in an orderly liquidation. Your appraiser must know who the intended users are and the intended use of the appraisal, in order to correctly develop an appropriate appraisal.

The Scope of Work, which is the type and extent of research and analyses required to prepare the appraisal, is determined by the appraiser at this time. In each appraisal, an appraiser must identify the problem to be solved, determine and perform the scope of work necessary to develop credible assignment results, and disclose the scope of work in the report. The appraiser's scope of work typically includes the type of inspection (if one is required), which approaches to value are required, the type and extent of research that will be performed, and any client-specific requirements.

The client and appraiser will schedule a date for an on site inspection. The appraiser will review all available information concerning the acquisition, installation, and maintenance costs of the machinery and equipment. The appraiser will inspect the machinery and equipment and obtain or create a detailed list. Once the machinery and equipment descriptions are in place, market research and analysis will be conducted.

An appraiser may use the sales comparison approach to develop an opinion of value. The sales comparison approach utilizes recent sales and current offerings of comparable items that have similar utility, quality, age, and specification as the subject item. An appraiser will analyze and compare characteristics of the comparable item to those of the subject. Points of comparison include age, condition, specification, output or capacity, etc.

The appraiser may also complete a cost approach. The cost approach is the appraiser's opinion of value of the machinery and equipment based on either the current replacement cost of a similar new item having the nearest equivalent utility as the subject item, or the current reproduction cost of a replica of the subject item, less depreciation from all causes. The cost approach is a valuable approach when appraising unique items of machinery or when no sales comparables are available.

Lastly, an appraiser may utilize the income approach. The income approach is used in appraisals of income-producing items where income is a factor in the decision-making process. It is generally not used in arriving at an opinion of value for multiple items of machinery and equipment.

After data collection and analysis, the appraiser will develop an opinion of value by considering the indicated values of the sales comparison approach, as well as the cost approach and/or income approach, if applicable. The values indicated by the approaches utilized will be reconciled to a final opinion of value. The appraiser will present his or her findings and conclusions in an appraisal report.

ESSENTIAL ELEMENTS OF A CREDIBLE APPRAISAL REPORT

A credible appraisal report clearly identifies the objects appraised, the scope of work performed by the appraiser, the client and other intended users, and the intended use of the report. The appraisal report must also include the definition of value (e.g., fair market or replacement value), the effective date, and the subject object's relevant characteristics. The data and analysis required to support the opinion of value must be effectively communicated.

There is no single standard appraisal report form, format, or style. All reports must contain sufficient information to enable the intended user to properly understand the conclusions and to be credible.

Regardless of the intended use of the appraisal report, the appraiser should prepare the report in compliance with the *Uniform Standards of Professional Appraisal Practice* (USPAP) and include:

- A complete description of the property in sufficient detail to identify the machinery and equipment (may include photographs).
- Methods of analysis and data used to provide a value conclusion and the rationale for value.
- A signed certification similar to the one included in USPAP which includes a statement that the appraiser is not biased and does not have a present or prospective interest in the property.



SELF-REGULATED APPRAISAL PROFESSION

Some machinery and equipment appraisers belong to appraiser organizations in the United States and around the world, which have a Code of Ethics that members are required to uphold. Some of the organizations include Appraisal Sponsors of The Appraisal Foundation, which are listed at the end of this brochure. Along with a Code of Ethics, these organizations adhere to, at a minimum, the education and experience criteria established by the Appraiser Qualifications Board (AQB) of The Appraisal Foundation. There are other personal property appraiser professional organizations that are not Appraisal Sponsors of The Appraisal Foundation. Although these organizations may have Codes of Ethics, and voluntarily adhere to the minimum criteria established by the AQB, they are under no mandate to do so. Finally, some personal property appraisers do not belong to any appraisal membership organization.

THE IMPORTANCE OF APPRAISER INDEPENDENCE

Professional appraisers are trained to deflect any attempt to influence the appraisal or opinion of value, and to remain independent, impartial and objective. Since the appraiser has the sole responsibility for the analyses, opinions, and conclusions contained in the appraisal, his or her independence is a critical element to enhance the public trust that appraisals contain credible opinions of value. Appraisers complying with the *Uniform Standards of Professional Appraisal Practice* are required to maintain this level of independence, to perform assignments without bias and to include in the appraisal certification the following statement.

I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.⁵

⁵ USPAP 2014-15 Edition. Page U-58, lines 1883-1884. The Appraisal Foundation.



FREQUENTLY ASKED QUESTIONS

What can be done if it is discovered that a correction or clarification to the appraisal is necessary or other relevant data should be considered?

After reviewing the appraisal, if you think the appraiser did not consider important information about the subject machinery and equipment or available comparables discuss the matter with the appraiser. The appraiser should review the appraisal and, if additional credible information is pertinent to the appraisal assignment, provide a revised appraisal with commentary addressing your concerns.

How do I find (locate) a qualified machinery and equipment appraiser?

Asking lenders or accountants who routinely use machinery and equipment appraisal services for a referral is a good way to find a qualified appraiser. The internet or yellow page directories may also be good places to search for a machinery and equipment appraiser. An internet search will also yield professional appraiser organizations that will have membership directories or other resources for someone looking for an appraiser.

In most cases, a machinery and equipment appraisal is required for a specific reason or use. The party recommending or requiring that an appraisal be done will typically be able to refer you to an appraiser.

Depending on where the equipment is located, you may or may not be able to find a local appraiser. Equipment appraisers routinely travel to inspect the items they are appraising.

Real property appraisers must be licensed or certified. Do machinery and equipment appraisers have to be licensed or certified?

Unlike real property appraisers, personal property appraisers are not licensed or certified by the state appraiser regulatory agencies. Therefore, when hiring a personal property appraiser, consider hiring an appraiser who is credentialed by a recognized professional appraiser organization that adheres to the minimum criteria established by the AQB.

Most appraisal organizations have websites with lists of appraisers together with their qualifications, areas of expertise, and location. In addition, lenders at financial institutions that routinely lend on machinery and equipment can provide resources for finding an appraiser. Many machinery and equipment appraisers also have websites.

What constitutes a “qualified” appraiser?

The Appraiser Qualifications Board has established minimum criteria as to what constitutes a qualified personal property appraiser. The *Personal Property Appraiser Minimum Qualification Criteria* can be found at www.appraisalfoundation.org.

The appraiser should be able to demonstrate that he or she has knowledge and experience in appraising items similar to what you need appraised. The appraiser should also have experience in providing appraisals for the same intended use such as estate tax, insurance, loan consideration or collateral purposes, financial accounting, etc.

Generally speaking, competent professional appraisers may fall into two general areas: (1) appraisers who are specialists and have training in principles of valuation and knowledge of the markets with knowledge focused on a specific area of expertise; and (2) appraisers who are generalists and have training in principles of valuation and knowledge of the markets with broad experience in many areas. It is essential for clients to seek appraisers with expertise relative to the marketplace and type of machinery and equipment to be appraised.

Both the appraiser’s experience with the specific equipment type of a specific industry and his or her experience in providing appraisals for the same or similar intended use that you require should be considered when evaluating a prospective appraiser.

Is there an equipment appraiser's organization?

Yes, there are several, including some of the Appraisal Sponsors listed at the end of this brochure.

What should I be looking for from these organizations?

Initial membership requirements for a professional appraiser organization should include both appraisal-specific education and appraisal experience. There should also be a continuing education requirement. Most organizations offer a designation or have multiple membership levels with specific requirements. These requirements should be posted on the organization's website, or you can call the organization directly.

How much will a machinery and equipment appraisal cost?

The cost for an appraisal will vary widely based on the type and quantity of equipment that is to be appraised, the intended use of the appraisal, the cost of travel if required, and the level of report detail that is needed. Because of the many variables involved, it is best if you contact an appraiser directly to obtain a fee quote or proposal for services.

How long will the appraisal take?

This will vary based on the type and quantity of equipment that is to be appraised, the intended use of the appraisal, the amount of travel if required, and the level of report detail that is needed. Many appraisals will take 2 to 4 weeks.

Should I pay for the appraisal in advance?

The terms of payment vary with the appraiser or appraisal company and also with the scope of the work to be performed. There may be a requirement for a retainer or deposit.

Appraisers typically require payment for service before submitting the report or communicating the value opinion to you. The requirement for payment prior to delivery of assignment results protects the independence of the appraiser.

Does the appraiser have to see the machinery and equipment he or she is appraising?

In most cases, the appraiser will physically inspect the machinery and equipment that is the subject of the appraisal. However, USPAP does not require the appraiser to see the machinery and equipment to obtain an accurate description and to verify its condition when this information is available from other sources. There may be reasons that the inspection is not possible such as in casualty loss situations where the items to be appraised have been destroyed.



What if I need the appraiser to testify about the appraisal?

Before engaging the appraiser, you and/or your attorney should discuss with the appraiser the possibility of testifying in court, in a mediation, or in deposition. While a willingness on the appraiser's part to testify is important, prior expert witness testimony is essential.

Is court testimony part of the appraisal fee?

Typically, the appraiser charges a fee for the appraisal and a separate additional fee for deposition, trial preparation and court testimony. In many cases, the legal matter is settled and testimony is not required. By charging separate fees for the services, you are not charged for a service that you do not use.

What other services could a machinery and equipment appraiser provide?

This will vary by appraiser or appraisal firm. Many appraisers do not provide additional services and would only provide appraisal and possibly expert witness testimony services. Other appraisers do provide additional services and serve as dealers, who buy and sell machinery and equipment, or as auctioneers, who conduct auction sales.

It is important to note that when a person is providing services as an appraiser, he or she should comply with USPAP and provide these services in an ethical and unbiased manner. When a person is providing services outside of appraisal practice (e.g., dealers, auctioneers), the person must not misrepresent his or her role.

What if the appraiser offers to buy the machinery and/or equipment from me?

Be careful of an appraiser who offers to both appraise and then buy items from you at appraised value. Such a situation could involve a conflict of interest on the appraiser's part and would be inconsistent with the objectives of USPAP. If you want to sell equipment, you will be better served to contact dealers directly and obtain multiple quotes.

What if the appraiser offers to sell the machinery and/or equipment on my behalf?

This service is completely separate from the appraisal process and the appraiser should advise you that he or she is no longer acting as an appraiser but is acting as a broker. Utilizing a commission based agreement would help to protect your interests and provide an incentive for the broker to obtain the highest price for the equipment.

Why doesn't The Appraisal Foundation enforce the Uniform Standards of Professional Appraisal Practice (USPAP)?

While the *Uniform Standards of Professional Appraisal Practice* are standards for developing and communicating appraisals, it is not within the purview of The Appraisal Foundation to enforce USPAP, as it was not granted such authority by Congress.

Formal enforcement of appraisal standards is provided by personal property appraiser organizations, such as those that are Appraisal Sponsors of The Appraisal Foundation. Courts and/or case law may also serve to enforce USPAP standards.

Appraisers may also simply choose to comply with USPAP, even if they are not otherwise required to do so. Enforcement of USPAP in these situations may depend on jurisdictional or other legal matters. If an appraiser is not required to comply with USPAP but otherwise chooses to comply, a client should ask the appraiser if any enforcement entity oversees the appraiser's practice.



IMPORTANT TERMINOLOGY

Appraisal – An opinion of value.⁶ The act or process of developing an opinion of value by an impartial and properly qualified individual.

Appraisal Review – The act or process of developing and communicating an opinion about the quality of another appraiser’s work.

Credible Appraisal – A credible appraisal is one that is worthy of belief. A credible appraisal includes support, by relevant evidence and logic, for the opinion of value.

Value – The monetary relationship between properties and those who buy, sell, or use those properties.⁷

Effective Date of Valuation – The date that the appraiser inspected the object, developed the opinion of value, or another date of relevance to the client or intended user. The client may request a date of valuation to obtain an opinion of value on the date of death for an estate; date of a charitable contribution; transfer of gift; or sale date.

⁶ USPAP 2014-15 Edition. Page U-1, line 8. The Appraisal Foundation.

⁷ USPAP 2014-15 Edition. Page U-4, line 141. The Appraisal Foundation.

The Appraisal Foundation – The Appraisal Foundation is a Congressionally authorized non-profit organization established in 1987. The Appraisal Foundation is dedicated to the advancement of the appraisal profession. The Foundation accomplishes its mission through the work of its three independent boards: the Appraisal Practices Board (APB), the Appraiser Qualifications Board (AQB) and the Appraisal Standards Board (ASB).

Appraisal Standards Board (ASB) – The ASB sets forth the minimum requirements for ethics and competency in developing an appraisal and reporting its results within the *Uniform Standards of Professional Appraisal Practice* (USPAP).

Appraiser Qualifications Board (AQB) – The AQB establishes the minimum qualification criteria for state licensing, certification and recertification of real property appraisers. The AQB also sets forth voluntary criteria for personal property appraisers.

Appraisal Practices Board (APB) – The APB provides voluntary guidance on recognized valuation methods and techniques, which may apply to all disciplines within the appraisal profession.

Personal Property – Identifiable tangible objects that are considered by the general public as being “personal” – for example, furnishings, artwork, antiques, gems and jewelry, collectibles, machinery and equipment; all tangible property that is not classified as real estate.⁸

Comparable – A shortened term for comparable sale, a sale record for a similar object used for comparing objects in the sales comparison approach in order to develop an opinion of value.

Sales Comparison Approach – A set of procedures in which a value is derived by comparing the property being appraised to similar properties that have been sold recently, then making adjustments to the sale prices of the comparables based on their differences with the property being appraised. Adjustments to comparable object prices are based on marketplace conditions and the objects’ characteristics of value.

⁸ USPAP 2014-15 Edition. Page U-4, lines 116-118. The Appraisal Foundation.

Cost Approach – A set of procedures through which a value is derived for an object by estimating the current cost to create a reproduction of or replacement of the object. This estimate may include deducting depreciation from the total cost.

Income Approach – A set of procedures through which an appraiser develops a value for an income-producing property by calculating the present value of anticipated cash flows.



SPONSORING ORGANIZATIONS OF THE APPRAISAL FOUNDATION

Appraisal Sponsors:

American Society of Appraisers

American Society of Farm Managers & Rural Appraisers

Appraisers Association of America

Columbia Society of Real Estate Appraisers

Instituto de Evaluadores de Puerto Rico

International Association of Assessing Officers

International Right of Way Association

International Society of Appraisers

Massachusetts Board of Real Estate Appraisers

National Association of Independent Fee Appraisers

North Carolina Professional Appraisers Coalition

Affiliate Sponsors:

American Bankers Association

Farm Credit Council

National Association of Realtors

International Sponsor:

Royal Institution of Chartered Surveyors



The Appraisal Foundation is the nation's foremost authority on the valuation profession. The organization sets the Congressionally-authorized standards and qualifications for real estate appraisers, and provides voluntary guidance on recognized valuation methods and techniques for all valuation professionals. This work advances the profession by ensuring appraisals are independent, consistent, and objective. More information on The Appraisal Foundation is available at www.appraisalfoundation.org.



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