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Standard Practice for
~~Property~~Asset Management System Outcomes[1]

This standard is issued under the fixed designation E2675; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice describes expected outcomes associated with ~~a property~~an asset management system. It is a measure of achievement rather than ~~process,~~process and is ~~descriptive~~ performance oriented rather than ~~prescriptive.~~design oriented.

1.2 Outcomes are defined as information, events, objects, or states of being produced as a result or consequence of ~~a~~an objective, plan, process, accident, effort, or other similar action or ~~occurrence.~~occurrence and can be expressed in a quantitative or qualitative manner.

1.3 An output measure is the tabulation, calculation, or recording of activity or effort and can be expressed in a quantitative or qualitative manner. For example, an output is driving 100 mph; an outcome is arriving safely.

1.4 An outcome measure is an assessment of the results of a program activity compared to its intended purpose. This practice assumes that inputs are correlated to known or declared outputs of the system or system component being assessed.

1.5 Consistent with Practice E2452~~,~~ (EMPM), these outcomes are grouped into process management outcomes and operational outcomes.

1.5.1 Although they may be directly related, strategies and tactics should not be confused with outcomes. Strategies are long-term plans of action designed to achieve a particular goal. Tactics are maneuvers or actions calculated to achieve some end. For example, increasing exercise is a strategy to attain the goal or outcome of fitness. Running is a supporting tactic to achieve the goal or outcome of fitness. Other tactics or groups of tactics may achieve the same outcome. On the other hand, as the definition of *outcome* indicates, tactics are not required for attaining outcomes. For example, fitness may be an unplanned result of a job requiring physical exertion.

1.6 This practice describes the outcomes at a high level, with limited discussion of each outcome or components of each outcome. The intent is to provide a framework for current and potential additional standards. A cross reference relating current standards to the outcomes is provided in Section 5.

1.7 The outcomes further described in Section 5~~,~~ are listed in the following:

1.7.1 *Process Management Outcomes:*

1.7.1.1 Outcome 1—Mission Support

1.7.1.2 Outcome 2—Accounting and Accountability

1.7.1.3 Outcome 3—Information Management

1.7.1.4 Outcome 4—Planning

1.7.1.5 Outcome 5—Relationships

1.7.2 *Operational Outcomes:*

1.7.2.1 Outcome ~~6—Property Functionality~~6—Asset Functionality for Intended Purpose

1.7.2.2 Outcome 7—Resource Optimization

1.7.2.3 Outcome ~~8—Property~~8—Asset Visibility

1.7.2.4 Outcome 9—Safety and Security

1.7.2.5 Outcome 10—Installation, Movement, and Storage

1.8 In Section 5, a rating scale is provided to quantify in a uniform manner achievement of outcomes and outcome components.

1.9 This practice, in combination with Practice E2279, clarifies and enables effective and efficient control and tracking of ~~property~~assets and may provide an enhanced basis for making decisions surrounding both property and property management systems.

1.10 This practice is intended to be applicable and appropriate for all ~~property-holding~~asset-holding entities.

1.11 This practice covers tangible <u>assets and tangible</u> property as defined in Terminology E2135. Consistent with the nomenclature used, individual portions of the practice may be applicable to more limited subsets of tangible ~~property,~~<u>assets,</u> for example<u>,</u> to equipment and not to material.

<u>1.12 This practice assumes competence and subject matter expertise of those performing the assessment and those being assessed. (For example, as specified in the GAO Yellow Book.) The use of professional judgment by asset management professionals is required to achieve desired outcomes.</u>

1.13 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate* ~~safety~~ *safety, health, and* ~~health~~*environmental practices and determine the applicability of regulatory limitations prior to use.*

1.14 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E2131 Practice for Addressing and Reporting Losses of Tangible Property
E2132 Practice for Inventory Verification: Electronic and Physical Inventory of Assets
E2135 Terminology for Property and Asset Management
~~E2221 Practice for Administrative Control of Property (Withdrawn 2011)~~[3]
E2279 Practice for Establishing the Guiding Principles of Property Asset Management
E2306 Guide for Disposal of Personal Property Assets
E2378 Practice for the Recognition of Impaired or Retired Property Assets
~~E2379 Practice for Property Management for Career Development and Training (Withdrawn 2013)~~[3]
E2452 Practice for Equipment Management Process Maturity (EMPM) Model
E2453 Practice for Estimating the Life-Cycle Cost of Ownership of Property Assets
E2495 Practice for Prioritizing Asset Resources in Acquisition, Utilization, and Disposition
E2497 Practice for Calculation of Asset Movement Velocity (AMV)
E2499 Practice for Classification of Asset Location Information
E2604 Practice for Data Characteristics of Personal Property Asset Record
E2605 Practice for Receiving Assets
E2606 Practice for Receipt Notification as a Result of Tangible Asset Movement
E2607 Practice for Cannibalization/Reclamation of Serviceable Equipment Components to Support Demand Requirements
E2608 Practice for Equipment Control Matrix (ECM)
E2631 Practice for Physical Placement of an Entity-Controlled Supplemental Identification Label
E2671 Practice for Defining Movements, Shipments, and Transfers of Tangible Property
E2672 Practice for Identification and Categorization of Tooling
E2676 Practice for Tangible Property Mobility Index (MI)
E2715 Practice for Moveable Property Storage
E2811 Practice for Management of Low Risk Property (LRP)
E2812 Practice for Uniform Data Management in Asset Management Records Systems
E2858 Practice for Sales of Personal Property
E2936 Guide for Contractor Self-Assessment for U.S. Government Asset Management Systems
E2962 Guide for Fleet Management
E3015 Guide for Management of Customer-Owned Property Assets in Possession of Supplier, Contractor or Subcontractor
E3056 Guide for Strategic Warehousing
E3140 Guide for Asset Management Career Development, Education, and Training
E3173 Guide for Decommissioning and Disposal of Medical Equipment
E3210 Practice for Infrastructure Management
E3221 Guide for Motorized Equipment

2.2 *Federal Documents:*
FAR Federal Acquisition Regulation[3]
GAO-18–568G Government Auditing Standards: 2018 Revision (The GAO Yellow Book)[4]

2.3 *ISO Standard:*[5]
ISO 55000 Asset management — Overview, principles and terminology

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] ~~The last approved version of this historical standard is referenced on www.astm.org.~~Available from U.S. General Services Administration (GSA), https://www.acquisition.gov/browse/index/far.

[4] ~~*The Online Business Dictionary*, s.v. "return on investment," http://www.businessdictionary.com (accessed February 1, 2009).~~Available from U. S. Government Accountability Office (GAO), 441 G St., NW, Washington, DC 20548, http://www.gao.gov.

[5] Available from International Organization for Standardization (ISO), ISO Central Secretariat, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, https://www.iso.org.

3. Terminology

3.1 *Definitions*—For definitions relating to property and asset management, refer to Terminology E2135.

3.1.1 *asset, n*—(1)item, anything owned having monetary value; thing, (2) tangible or intangible items owned by an entity that have probable economic benefits that can be obtained or controlled by the entity.or entity that has potential or actual value to an organization. **(ISOE2135) 55000**

3.1.2 *asset functionality, n*—set of functions that an asset is able or equipped to perform.

3.1.3 *asset management system, n*—subset of organizational policies, processes, procedures, and people related to the management assets.

3.1.3.1 *Discussion*—
These processes represent sound practice and are compliant with applicable standards, policies, regulations, and contractual requirements.

3.1.4 *best value, n*—expected outcome of an acquisition that provides the greatest overall benefit in response to the requirement.

3.1.5 *information management, n*—collection and management of information from one or more sources and the distribution of that information to one or more audiences. **E2675**

3.1.5.1 *Discussion*—
This sometimes involves those who have a stake in or a right to that information. Management means the organization of and control over the structure, processing, and delivery of information.

3.1.6 *operations, n*—exercise of the tasks that constitute equipment management. tasks. **(E2452)**

3.1.7 *opportunity, n*—concept that denotes a potential positive impact.

3.1.8 *opportunity assessment, n*—assessing external conditions that are helpful to achievingevaluating conditions to achieve objectives.

3.1.7 *opportunity management, n*—managing external conditions that are helpful to achieving objectives.

3.1.9 *outcome, n*—information, event, object, or state of being produced as a result or consequence of a plan, process, accident, effort, or other similar action or occurrence. **E2135**

3.1.10 *outcome measure, n*—an assessment of the results of a program activity compared to its intended purpose. **E2135**

3.1.11 *output measure, n*—the tabulation, calculation, or recording of activity or effort and can be expressed in a quantitative or qualitative manner. **E2135**

3.1.12 *process management, n*—planning and administering the activities necessary to achieve a desired level of performance and identifying opportunities for improving quality, operational performance, and ultimately, customer satisfaction. **(E2135)**

3.1.12.1 *Discussion*—
It involves design, control, and improvement of key business processes.

3.1.12 *property functionality, n*—set of functions that an asset is able or equipped to perform.

3.1.13 *property management system, n*—subset of existing organizational processes related to the lifecycle management of property. **(E2135)**

3.1.13.1 *Discussion*—
These processes represent sound practice and are compliant with applicable standards, policies, regulations, and contractual requirements.

3.1.13 *record utility, n*—overall measure of structured ~~property~~asset records based on the usefulness of stored, standardized, and appropriately available information of sufficient accuracy and reliability to respond reasonably to ~~entity~~organizational requirements in a timely manner.

3.1.14 *resource optimization, n*—~~property~~asset management system outcome characterized by the minimization of asset holdings while assuring entity requirements for assets are met.

3.1.15 *return on investment, n*—earning power of assets measured as the ratio of the net income (profit less depreciation) to the average capital used (or equity capital) in a firm or project. **(Online Business Dictionary[4])**
   3.1.15.1 *Discussion*—
Usually expressed as a percentage, it is a measure of the profitability that (while not taking the time value of money into account) indicates whether or not a firm is using its resources in an efficient manner.

3.1.16 *risk, n*—concept that denotes a potential negative impact.

3.1.17 *risk assessment, n*—determination of quantitative or qualitative value of risk related to a concrete situation and a recognized threat.
   3.1.17.1 *Discussion*—
Risk assessment is considered as the initial and recurring step in a risk management process.

3.1.18 *risk management, n*—structured approach to managing uncertainty through risk assessment, developing strategies to manage it, and mitigation of risk using managerial resources.
   3.1.18.1 *Discussion*—
Strategies include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk.

3.1.19 *strategy, n*—long-term plan of action designed to achieve a particular goal.

3.1.20 *sustainability, n*—system of actions, projected to be viable on an ongoing basis.

3.1.21 *system level outcome, n*—outcomes based on the policies, procedures, and tools that are in place to manage ~~property,~~assets, regardless of ownership.

3.1.22 *tactic, n*—maneuver or action calculated to achieve some end.

3.2 ~~*Acronyms:*~~*Acronyms and Abbreviations:*

3.2.1 *ECM*—equipment control matrix

3.2.2 *EMPM*—equipment management process maturity

3.2.3 *FAR*—Federal Acquisition Regulation

~~3.2.4 *LDD*—loss, damage, and destruction~~

4. Significance and Use

4.1 This practice establishes expected outcomes associated with ~~a property~~an asset management system.

~~4.2 Care should be taken not to confuse tactics with the outcomes described in this practice. Tactics are a means to an end. Outcomes are an end.~~

4.2 Understand the difference between performance standards and design standards—these are primarily performance statements versus design statements. What is being measured is achievement, not process.

4.3 This practice encourages an inclusive understanding and communication of the outcomes associated with ~~a property~~an asset management system. As additional standards are added, comparisons on this basis to other ~~property~~asset management systems can be further enabled.

4.4 This practice, in combination with Practice E2279, ~~may~~should provide an enhanced basis for making decisions surrounding both ~~property~~assets and ~~property~~asset management systems.

4.5 This practice is intended to foster and enable additional standard practices related to or based on the terms and concepts in the outcomes and outcome components. In particular, this practice may suggest a standard for personal and management skills useful in efforts to achieve these outcomes.

4.6 ~~In particular, this practice may suggest a standard for personal and management skills useful in efforts to achieve these outcomes.~~This practice is to evaluate how robust the asset management system is, and guide future corrections and improvements.

5. ~~Property~~Asset Management System Outcomes

5.1 *Process Management Outcomes*—Process management outcomes are system level outcomes.

5.1.1 *Outcome 1: Mission Support:*

5.1.1.1 *Outcome Component 1.1: Mission Support*—The ~~Property~~Asset Management System should support the mission and objectives of the ~~entity~~Organization of which it is a part.

5.1.2 *Outcome 2: Accounting and Accountability*—There are ~~four~~five outcome components of Outcome 2: (2.1) ~~property~~asset accountability and responsibility, (2.2) best value, (2.3) accounting/financial management, ~~and~~ (2.4) effectiveness and ~~efficiency.~~efficiency, and (2.5) Return on Investment.

5.1.2.1 *Outcome Component 2.1: ~~Property~~Asset Accountability and Responsibility*—~~Property~~Asset management is concerned with the management of specific rights and responsibilities associated with individual assets and groups of assets available to the entity for use. These specific rights and responsibilities are a subset of the total bundle of rights and responsibilities of the ~~property~~asset owner or assignee that have been conveyed to the entity. This includes internal organizational, sub-organizational, and individual responsibility for ~~property~~assets used or assigned. Attention to relief of accountability is a critical element in policies and procedures and must designate when responsibility or liability for an asset ends or is transferred to a new recipient.

5.1.2.2 *Outcome Component 2.2: Best Value*—Best value includes the concepts of efficiency and effectiveness. The entity seeks the best value in the long term in the use and maintenance of ~~property~~assets (Practice E2279).

5.1.2.3 *Outcome Component 2.3: Accounting/Financial Management*—This includes accurate and timely financial recognition and ~~accounting.~~accounting, auditability, and substantiation.

5.1.2.4 *Outcome Component 2.4: Effectiveness and Efficiency*—~~Property~~Asset management practices must seek, when viewed in totality, to be effective and efficient, to the point at which benefits exceed the costs of operation (Practice E2279).

5.1.2.5 *Outcome Component 2.5: Return on Investment*—Earning power of property measured as the ratio of the net income (profit less depreciation) to the average capital employed (or equity capital) in a firm or project. Expressed usually as a percentage, it is a measure of the profitability that (while not taking the time value of money into account) indicates whether or not a firm is using its resources in an efficient manner.

5.1.3 *Outcome 3: Information Management*—There are two major components of Outcome 3: (3.1) record utility and (3.2) reporting.

5.1.3.1 *Outcome Component 3.1: Record Utility:*
    (1) Record utility is an overall measure of structured ~~property~~asset records based on the usefulness of stored, standardized, and appropriately available information of sufficient accuracy and reliability to reasonably respond to entity requirements in a timely manner. In other words, the outcome is appropriately useful record information based on the control class of the ~~property~~ asset or class of ~~property~~asset and other factors. One facet of record utility as an outcome is simply having the right data when it is needed.

The optimal record utility outcome is collecting and storing the proper data so when information is requested there is neither a delay nor a special data call required to fulfill the request. Excessive storage, standardization, or availability of information may be inefficient and ineffective.

~~(2) While conducting a physical inventory is a tactic, an outcome of a physical inventory could be physical inventory accuracy. However, such a potential outcome is a limited snapshot produced by a process that of course has its own accuracy concerns. A more consistent and dependable outcome would then perhaps be record accuracy. In accordance with Practice E2608, not all items are tracked to the same level of control or accuracy. Therefore, extending the concepts of Practices E2279 and E2608, a more meaningful outcome here is record utility. For example, identification (tagging) is a tactic to support record utility. In accordance with Practice E2608, some property may appropriately not be tagged nor have control records created.~~

5.1.3.2 *Outcome Component 3.2: Reporting*—Fully scalable, flexible, responsive strategic and tactical reporting capability, available as needed, where needed. Reporting includes individual item reports, summary reports, and metrics. It also includes conceptual level presentations and reports derived from property control system information. The purpose of reporting is primarily for decision-making purposes. Information reported should be useful to support the mission and objectives of the organization.

5.1.4 *Outcome 4: Planning*—There are two major components of Outcome 4: (4.1) awareness of opportunities and risks and (4.2) anticipate and prepare for the future.

5.1.4.1 *Outcome Component 4.1: Awareness of Opportunities and Risks*—Awareness ~~should lead to consideration of options for action or inaction.~~ informs decision-makers to take or refrain from taking action. In accordance with the provisions of Practice E2279, individuals should be empowered to take action within established operational parameters and constraints and as appropriate inform relevant stakeholders, especially cognizant management, of significant risks and opportunities. Tools for awareness include:

(1) Self assessment, using the EMPM model (Practice E2452~~)~~), Contractor Self Assessment (Guide E2936), or other comparable methodology,

(2) External or independent reviews,

(3) Risk assessment and risk management, and

(4) Opportunity assessment and opportunity management.

5.1.4.2 *Outcome Component 4.2: Anticipate and Prepare for the Future:*

(1) Planning of various types including: strategic planning, tactical planning, compliance planning, and financial planning.

(2) Anticipate changes and impacts to the operational ~~environment.~~environment, and plan for lifecycle management activities including those referenced in Outcomes 6 (5.2.1) through 10 (5.2.5).

(3) Education and training as appropriate for stakeholders at various levels of involvement.

(4) *Professional Involvement*—Recognize the value of participation and contributions to professional organizations and other peer groups.

(5) Staffing.

(6) *Technology Insertion*—Insertion of new technologies is consistently considered with emphasis on accurate life-cycle cost of the technology and full benefits of the technology.

(7) Continuous improvement.

(8) Supply chain planning takes into consideration issues such as supply and demand, warehousing needs, parts scarcity, sources of supply, and other factors that may impact an organization's ability to perform its objectives.

5.1.5 *Outcome 5: Relationships (Stakeholder Satisfaction)*—There are two major components of Outcome 5: (5.1) compliance and (5.2) interface.

5.1.5.1 *Outcome Component 5.1: Compliance*—Compliance includes policies and procedures.

(1) *Internal*—Awareness, understanding, and ~~adherence~~conformance to policies, procedures and internal controls.

(2) *External*—Awareness, understanding, and ~~adherence~~conformance to standards and special provisions inherent to the operating environment including applicable laws, ~~rules,~~ regulations, ~~mandates, or~~standards, and contractual provisions.

5.1.5.2 *Outcome Component 5.2: ~~Interface:~~ Relationships and Alignment with Financial and Non-financial Organizations:*

(1) *Internal Interface*—Effective relationships with internal ~~organizations (for example, security,~~ stakeholders, for example, accounting, contracts, human resources, information technology, ~~purchasing, contracts,~~ operations, purchasing, security, supply chain, and so ~~forth)~~forth, are established.

(2) *External Interface*—Effective relationships with external ~~customers and suppliers~~ customers, regulators, and other stakeholders are established.