Performance-Based Service Metrics in IT

Choosing metrics is more of an art than a science especially in IT and other performance-based contracts. The right metrics can make these contracting efforts soar.

BY PETER S. ADAM

About the Author

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The U.S. government plans to spend $52 billion on information technology (IT) in FY 2003, a 15.6 percent boost that is intended to revitalize the economy, secure the homeland, and help win the war on terrorism. Federal agencies are expected to increase their percentage use of performance-based contracts (PBCs) from 20 percent in FY 2002 to 50 percent in 2005. With federal outlays for technology goods and services expected to grow 65 percent over the next five years, there will be a lot more performance-based IT contracting.

Metrics Are Key

According to Clyde Jackson, Logistics Management Agency (LMI), "getting the metrics right is key, in IT as well as other types of performance-based contracts (PBCs)."

"It's critical for performance standards to be linked directly to the desired contract outcomes," says Jackson. "If they're not, then you'll wander down the wrong path." And, in order for efforts and outcomes to link up correctly, performance standards have to be "measurable, achievable, relevant, and controllable."

Measurable

"It's best if you have objective, quantifiable standards. Like sports—if you're timing a race, it's fairly straightforward who wins—first, second, and so on. If you're judging diving or figure skating, it's subjective. And that's a lot tougher."

Fortunately, there are many existing commercial quality standard templates. These can simplify the metrics of service-level agreements (SLAs) used in IT PBCs. For example, the International Organization for Standardization 9000 Standards or Capability Maturity Models (CMMs) was developed by the Carnegie Mellon Software Engineering Institute (SEI). SEI is a federally funded research and development center, whose software helps organizations improve their human resource, process, and technology capabilities. Also, the major Internet service providers (ISPs), such as AT&T, Lucent Technologies, and NORTEL, have extensive SLA template information on their Web sites.

"In cases where the measurement has to be subjective, a customer satisfaction survey is the best way to assess performance," says Jackson. This is not easy. As the American Productivity and Quality Center (APQC) (**www.apqc.org**) points out, it's easy to lose sight of two essential survey elements: the survey's purpose and detailed metric definitions. There are many ways to survey: on-line and hardcopy paper questionnaires or through interviews, focus groups, and secondary research. According to APQC, the most common survey method is Web-based, allowing for easy participant access and completion.

Regardless of the survey method, APQC advises focusing on the following questions:

- How often will information be updated?
- Who supplies the information?
- Who has access to the information, and how is it accessed?
- Are the survey questions easily understood, and do they require thought and discussion in order to be answered properly?
- What survey results will be shared with the participants?

Achievable

"It makes no sense to set the bar too high, or have metrics that are too numerous or complex," says Jackson. Instead, the metrics should be set at acceptable service levels—and only a few *meaningful* measures/metrics should be used. APQC suggests selecting only five to eight, and clearly communicating them to all stakeholders.

Relevant

Relevance is often the most difficult metric characteristic to ensure. Sub par contract performances frequently result from selecting standards that are measurable, appear achievable, and are within the contractor's control. Regardless of whether the contractor or the integrated solutions team develops the metrics used in any contracting arrangement, it's important to limit metrics to those that are truly important and relevant to the program objectives. "And metrics should also be cost-sensitive, i.e., the cost of measuring a performance aspect should not exceed the measurement's value. Expensive measurements/metrics should be limited to mission-critical requirements," adds Jackson.

Making It Relevant

According to Lou Gaudio, Sterling Heritage Consulting, a firm that focuses on the business of federal acquisition,

> When we work on performance standards, we frequently cite a recent example from an IT company that we worked with, where it took a couple of attempts to get the metrics relevant. This company's strong suit was customer support. And its reputation as a high quality service provider enabled it to charge more than its competitors. Just to set the record straight.

Gaudio adds, "We weren't assisting with this company's acquisitions, we were documenting outsourcing successes and failures, to benchmark best practices in outsourcing."

"Listen to the customer" was the company's mantra. Phone connections throughout the corporate headquarters allowed employees to monitor calls to the help desk. And when HQ employees were waiting for meetings to start, live conversations between the help desks it maintained for clients and their customers were even piped into the conference rooms, so employees could "listen to the customer."

Running a successful help desk is especially difficult for an IT firm. This company chose to contract out to a firm that specialized in running IT help desks. After extensive market research and due diligence, an experienced firm was chosen to run the help desk. One metric to measure contract performance was "the number of calls handled monthly." But an unintended consequence of this was calls to the help desk became brief and the monthly volume soared. Employees at corporate HQ "listening to the customer," heard: "Try rebooting your computer." And then: "Click."

Help desk calls soared, along with customer complaints. Negative buzz hit the trade magazines like lightning. The help desk contract was terminated. A new agreement with a new metric was put in place. The duration of the calls to the help desk was measured, and the turnaround was immediate. Calls went from an average of 18 seconds to lengthy conversations about a wide range of topics. The company's help desk became a great place to call for interesting discussions with wonderful people. The backlog of calls grew and more help desk personnel were needed to staff the phones. This didn't translate into customers being satisfied with resolution of their computer problems.

The contract was restructured again, this time correctly. The metric used was the number of incoming calls that did not result in a follow-up call, ensuing in customer satisfaction. When customers call, they wanted one outcome: problem solved, ASAP. And, the final metric measured whether or not the customer got satisfaction on the first call.

Even companies that distinguish themselves through customer satisfaction and focus on "listening to the customer" can meet challenges by choosing metrics that are irrelevant to the desired outcomes.

Controllable

Often, a standard may go right to the essence of the desired outcome, however, the contractor has to say, "wait a second, that's not something I can control because there are too many other variables at work," notes Jackson. For instance, let's say one of the standards is system availability. A good standard—one that is measurable, achievable, and relevant—might be the number of hours each month that the system is running and available to the users. However, the contractor may not be responsible for all the variables that affect system availability (i.e., another contractor is responsible for the hardware, or hardware maintenance, or there are numerous systems outside the organization's control that affect system availability). In this instance, system availability would not be an appropriate standard because it is beyond the contractor's control. Metrics used in the SLA have to take into consideration the control dimension.

Proper Alignment

Aligning performance metrics for IT contracts with customer needs and end-user objectives is often easier said than done. End-users and contractors have differing perspectives when it comes to IT services. A service provider may meet a formidable array of well-crafted service-level measurements and performance metrics. But that doesn't necessarily guarantee customer satisfaction—and not just because of "expectations creep" on the part of end-users. Metrics can be component-based or site- or position-based. A component-based SLA may specify a 99.9 percent service level. And each component may well run smoothly 99.9 percent of the time. But different components rarely fail coincidentally. So, downtime at any given workstation could well exceed 0.10 percent, something that's unlikely to go unnoticed by the end-user.

What the client, or more accurately the end-user, usually wants can be expressed fairly simply: availability, performance, and affordability.

- Availability—A system that's up and running when and where the end-users want it.
- Performance—While the contractor may think of delivering packets per second, all the end-user probably notices are things such as e-mails being delivered quickly and to the right addresses, and smooth up- and downloading.
- Affordability—Is the IT solution cost-effective? End-users may not be fully aware of the true "all in" costs of any IT service arrangement. But the principals involved in designing, negotiating, and managing the contract must take into the account trade-offs between price and performance.

Needs and Specs

In order to ensure alignment of customer needs with contract specifications, Jackson suggests having the contractor propose the metrics and the quality assurance plan (QAP), or at least make sure the contractor contributes and/or buys into them. This works better than having the government agency propose the metrics and draw up the QAP alone, especially, Jackson notes, when using a statement of objectives (SOO). With an SOO, offerors are free to develop their own solutions, so a suitable QAP that is tailored to their recommended practices makes perfect sense. If the agency alone develops the QAP, it can very well limit what contractors can propose.

The federal government is moving away from simply selecting low-cost, technically acceptable service providers to a more sophisticated assessment of quality and pricing tradeoffs. Because of this, Jackson notes that it is increasingly important for an integrated solutions team to ensure that the QAP reflects reform-mandated changes in quality control and assurance of contracting practices.

Formerly, to ensure profits, winning contractors sometimes shaved costs by using less qualified personnel or substandard materials or processes. This is less likely to happen now with best-value selection, and the current emphasis on quality management and past-performance evaluation and reporting, requiring completely different incentives.

The Quality Approach

This quality approach, according to The Air Force Institute 63-124 (April 1, 1999), entails:

- Tailoring the contract to management's risks and costs;
- Using source selection criteria that reduce oversight requirements and ensure that only services agreed to are received and paid for;
- Relying on customer feedback where contract non-conformance can be validated;
- Allowing oversight flexibility to ensure consistency over time, even under changing circumstances;

- Allowing the contractor to perform and report on surveillance of services as part of its quality assurance system; and

- Using some form of oversight (government QA, third-party audit) to confirm surveillance results.

The dynamic quality of the contracting undertaking does not end with the contractor proposing, or buying into the QAP. And, getting the performance metrics right is not just a one-off, involving both contractor and agency during the contract negotiation.

"I believe standards cannot be set in a unilateral way," says Jackson. The contractor cannot set the standards alone. They have to be set as part of a dynamic *continuing* process, mutually agreed to, and revised—sometimes often."

Ongoing procedures for changing metrics and measures are important components of any performance-based contract. The PBC should stipulate a pre-arranged schedule of performance reviews. And, it should contain provisions for value engineering, change provisions, share-in-savings options, and/or other reviews, revisions, and alterations. Furthermore, both contractor and agency must keep in mind how different contract vehicles balance cost, schedule, and technical risks, altering the dynamics of metric selection.

As spelled out in FAR Part 16 (Types of Contracts), contractual arrangements vary with respect to:

- The degree and timing of the risk and responsibility assumed by the contractor for the costs of performance, and

- The amount and nature of the profit incentive offered to the contractor for achieving or exceeding specified standards or goals.

Across the Spectrum

At one end of the contractual spectrum is the firm-fixed-price contract, under which the contractor is fully responsible for costs. His performance determines contract profits or losses. At the other end is the cost-plus-fixed-fee contract, in which allowable and allocable costs are reimbursed and the negotiated fee (profit) is fixed, and the contractor has minimal responsibility for, or incentive to control, costs.

In between these extremes are various incentive contracts, including:

- *Fixed-price incentive contracts* in which final contract price and profit are calculated based on a formula that relates final negotiated cost to target cost; these may be either firm target or successive targets.

- *Fixed-price contracts with award fees* used to "motivate a contractor," when contractor performance cannot be measured objectively, making other incentives inappropriate.

- *Cost-reimbursement incentive contracts* used when fixed-price contracts are inappropriate, due to uncertainty about probable costs; these may be either cost-plus-incentive-fee or cost-plus-award-fee.

Proper Performance

Choosing the contract type that appropriately reflects the agency's needs helps ensure proper performance. Conversely, choosing an inappropriate contract type can lead to unsatisfactory results. Market research, informed business decision-making, and negotiation are all needed to determine the best type of contractual arrangement.

Ultimately though, it is the government's responsibility to assess its requirements and the uncertainties involved in contract performance and to select the best contract type for any particular IT or other type of service acquisition.

Yet, when it comes to choosing contract type, the government does not entirely have a free hand. It has to follow a stipulated order of preference:

(1) A firm-fixed-price performance-based contract or task order.

(2) A performance-based contract or task-order that is not firm-fixed price.

(3) A contract or task order that is not performance-based.

FAR 16.103(b) states

> A firm-fixed-price contract, which best utilizes the basic profit motive of business enterprise, shall be used when the risk involved is minimal or can be predicted with an acceptable degree of certainty. However, when a reasonable basis for firm pricing does not exist, other contract types should be considered, and negotiations should be directed toward selecting a contract type (or combination of types) that will appropriately tie profit to contractor performance.

Fixed-Price Preference

"An issue we frequently must address in our PBSA Action Workshops is the preference for firm-fixed-price contracts when doing performance-based services acquisition," according to Gaudio. Many services, particularly support services, have been acquired in the past on a cost-reimbursement basis. There is a lot of angst, particularly among support services contractors, as well as some in the program management community, about converting these efforts to fixed-price contracts.

"But if you step back and think about the way performance-based agreements are structured you can see the logic of the fixed-price preference," Gaudio adds. Performance-based contracts state desired outcomes and identify how performance will be measured. Some contracts identify additional performance that would benefit the user.

In an environment where performance is specified, but price is unconstrained, the outcome might exceed expectations. However, price itself is a measure used to communicate and define expected outcomes. A simple example is food service. Although meals may be specified in terms of outcomes, a $10 price tag communicates a very different expectation from a $110 price tag.

One final point concerning contract order of preference: The decision on contract type is not necessarily either-or. Hybrid contracts—those with both fixed-price and cost-type tasks—are common.

Incentives

Incentives also enter the picture when determining the type of contract to use. But contract type is only one aspect of "incentivizing" a performance-based acquisition. As contractors and agencies move closer to partnering, other non-monetary incentives become important.

Delivery and performance incentives are related to contractor performance and/or specific products' technical performance characteristics, such as speed or responsiveness. Incentives also can be based on meeting target performance standards, not minimum contractual requirements. Moreover, contracts can be extended for good performance or reduced for sub par performance.

Contract extension is another incentive (FAR 16.405-2). Award-term solicitations and contracts should include a base period (e.g., three years) and a maximum term (e.g., 10 years), similar to quantity estimates used in indefinite quantity/ indefinite delivery contracts for supplies (FAR 16.504).

When applying the award-term feature, agencies need to identify and understand the project or task to include:

- Conditions, constraints, assumptions, and complexities;
- Schedule, performance, and cost-critical success factors; and
- Schedule, performance, and cost risks.

Agencies also need to understand marketplace conditions and pricing realities. Only then can agencies establish meaningful and appropriate schedule, performance, and cost measures/parameters for a specific contract. These measures must be meaningful, accurate, and quantifiable to provide the right incentives and contract performance results. Specifics need to be incorporated and integrated in an award-term plan. Award-term is best applied when using performance or solution-based requirements where a SOW or SOO describes the agency's required outcomes or results (the "what" and "when" of the agency's requirement), and where the contractor has the freedom to apply its own management and best performance practices (the "how" of the requirement) toward performing the contract. The award-term plan must specify success measurement criteria, regarding how performance will be measured (i.e., defines what is "good" or "poor" performance) and the award-term decision made.

The contract should clearly indicate the consequences of various levels of performance in terms of the contract's minimum, estimated, and maximum terms—and the agency should prepare to follow up with consequences. If contractor performance is below the standards set, the contract ends at the completion of the base period. The agency must be prepared to re-procure in a timely fashion.

The effort applied in managing an award-term contract is critical. Too often, agencies and contractors don't invest the right people (numbers and skills) and management attention during the performance phase. Managing contracts with features such as award term is not a "last minute," incidental, or a fill-out-a-survey job. As in the case of its "sister" award-fee approach, communication needs to be constant and clear with contractors, and not include so many evaluation elements that it dilutes the critical success factors.

Other non-monetary incentives, including remedies, as appropriate, when performance targets or objectives are not met, should be positive too.

An incentive strategy resembles an acquisition strategy. There is no single, perfect, "one-size-fits-all" approach. The incentive structure should be geared to the acquisition, the characteristics of the marketplace, and the objectives the government seeks to achieve. Cost considerations are but one driver of contract-type decisions.

Other non-cost incentives that integrated solutions teams should consider include:

- Contract length considerations (options and award term),
- Strategic supplier alliances,
- Performance-based payments,
- Performance incentive bonus,
- Schedule incentives,
- Past performance evaluation,
- Agency "supplier of the year" award programs,
- Competitive considerations,
- Nonperformance remedies,
- Value engineering change provisions,
- Share-in-savings strategies, and
- Letters of commendation.

IT Is Negotiable

Performance incentives are negotiable. One of the keys to effective incentives involves recognizing, then acting on, the private sector's chief motivator—profit. Generating returns for their investors motivates companies. Involving the profit motive can work to the government's advantage. Set up the contract, so a contractor and the government can benefit from economies, efficiencies, and innovations. Correct incentives and goal alignment will minimize risks and ensure effective performance.

Managing the Relationship

With regard to contract management, the integrated solutions team should rely less on management by contract and more on management by relationship. At its most fundamental level, a contract is much like a marriage. It takes continual work by both parties to make it successful. All successful programs share the same common characteristics:

- Trust and open communication;
- Strong leadership on both sides;
- Ongoing, honest self-assessment;
- Ongoing interaction; and
- Creating and maintaining mutual benefit or value throughout the relationship.

There are several ways to shift the focus from management by contract to management by relationship. For example, plan on meeting with the contractor to identify ways to improve efficiency and reduce the effect of the "cost drivers." Sometimes agencies require management reporting based on policy *without considering what the cost of the requirement is*. For example, in one contract, an agency required that certain reports be delivered regularly on Friday. When asked to recommend changes, the contractor suggested that report due date be shifted to Monday because weekend processing time costs less. An example is requiring earned-value reporting on every contractual process. For tasks of lesser risk, complexity, and expense, a less costly approach to measuring cost, schedule, and performance can be used. This type of collaborative action will set the stage for the contractor and government to work together to identify more effective and efficient ways to measure and manage the program.

Metrics Figure In

Mark Wagner, a member of the Contract Services Association's Public Policy Committee and vice president for government relations of Johnson Controls, has another simpler take on how metrics figure into performance-based contracting.

Metrics figure into each of the three principle aspects of a performance-based contracting process, from the beginning to the end of the contract.

(1) **In the solicitation.** Metrics must be enumerated carefully and be consistent performance-based dynamics, Wagner says. "You can't have too many things measured." If you're "metriced to death," the contract will never work. "I've seen contracts that should have been short, sweet, and straightforward, but they were thicker than phone books with page after page of metrics. This is ridiculous. It involves a lot of work changing not only what is measured, but the standards that have to be met," he warns.

Wagner points out that a statement of objectives, which, in performance-based contracting replaces the old statement of work (SOW), prompts the contractor to share in developing the contract requirements/metrics. If written correctly, the SOO in the solicitation will

Metric Selection Step	Responsibility/Task/Method/ Determinant	Reference/Guidance/Authority
Success Determinants	Integrated Solutions Team (IST) Chosen	Basic Questions
Commercial Quality Standards	IST-Chosen	International Standards Organization (ISO)/Carnegie Mellon Software Engineering Institute
Quality Assurance Plan (QAP)	Contractor-Derived or Buy-In (SOO-Driven)	Best-Value Selection, and Past-Performance Evaluation Criteria Air Force Institute 63-124
Metric Selectivity	Limited and Meaningful	American Productivity and Quality Web site: **www.apqc.org**
Flexibility	Metrics that Can Be Refined/Amended	Value Engineering Change Provisions (VECP), Share-in-Savings Options, etc.
Order of Precedence/Contract Type	Agency's Order of Need, Market Research, and Informed Business Decision and Negotiation	FAR Part 16.103(b)
Incentivization	Wide-Ranging Cost Responsibility: Firm-Fixed-Price—Cost-Plus-Fixed Fee	FAR Part 16
Award Term	Extension for Good Performance; Reduction for Poor Performance	FAR 16.405-2
Non-Monetary Incentives	Acquisition, Market, and Objective-Driven	FAR Part 16, Types of Contracts FAR Part 46, Quality Assurance FAR Part 48, Value Engineering
Unleash the Profit Motive	Link Incentives to Mutually Agreed-Upon Contract Performance Measures and Metrics	Value Engineering Change Provisions (VEPC)
Establish/Maintain Relationship	Trust/Commitment Leadership Self Assessment Interaction Creating/Maintaining Mutual Benefit/Value	Customer Process Improvement Working Group that Includes Contractor, Program, and Contracting Representatives. Meetings Should Always Start with the Question: "Are We Measuring the Right Thing?"

Table 1. Metric Selection Summary

Metrics	Dynamics	Results/Outcomes
In the solicitation process	SOO prompts contractor to write SOW—avoid "overmetricizing"	Can improve SOW—but injudicious use of metrics weakens contract
In the comparison/selection	Sometimes like comparing apples to oranges	Depends on correct assessment
To ensure buy-in	Customers have to be included	Depends on customer involvement in transfer to PBC

Table 2. Wagner's Synopsis

prompt the contractor to write the SOW, and provide *him* with the opportunity of influencing the metrics to be used.

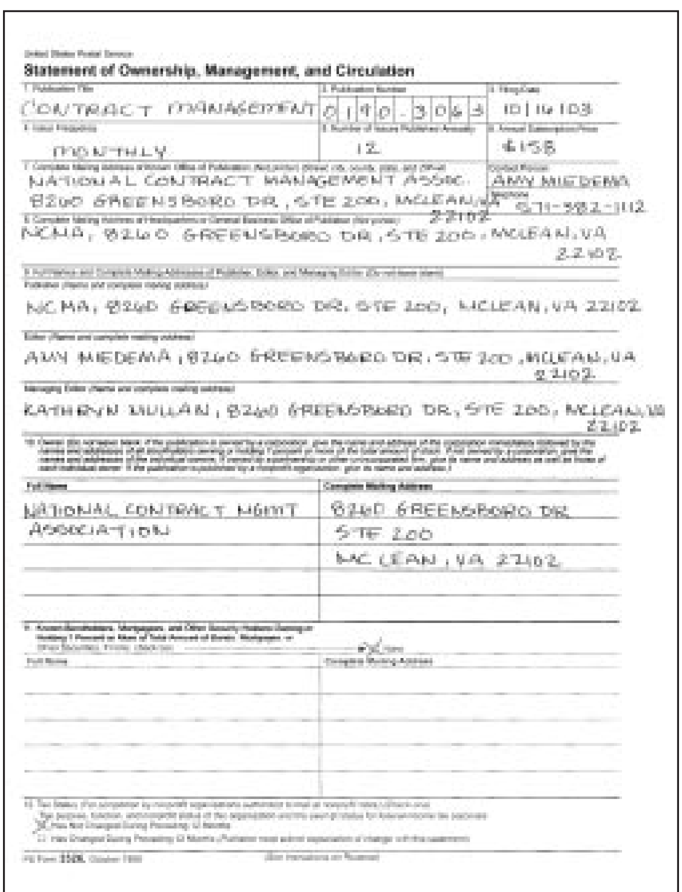
(2) **In the selection process.** "The challenge here," Wagner says, "is comparing apples and oranges." A spec-based approach was often easier; price was the key. "The agency compared the price and performance criteria of one contractor with those of another, based on bidding against the same standards. But now even slight differences in the metrics to be used can make comparisons difficult."

(3) **In assuring customer buy-in.** "Even if things work optimally so far, the contract won't work well unless the customers buy in. This can be best achieved up front by involving them in the whole process, so they don't have the feeling that they're losing control."

Wagner means customers here in the broadest sense. "In an IT contract, customers can be everyone with a computer terminal that's being served by the system. If the customers don't buy in at the PC, there can be a lot of backsliding, and people will want to revert to a spec-based system. It takes a whole paradigm shift."

The Wright Stuff

How many are too many metrics? That depends on the size, scope, and cost of the contract. Choosing metrics is more of an art than a science especially in IT and other performance-based contracts. But the right metrics can make performance-based contracting efforts soar. The Wright brothers' development of a heavier-than-air flying machine, for example, was a performance-based federal government contracting effort. The metrics included in Proposal No. 203, order No. 3619, their February 1908 contract with the U.S. Army Signal Corps, were simple: flight speed and duration. It left the specifics of how to achieve them up to Orville and Wilbur—and flight history took off. *CM* ■ CMBOK 1.5.8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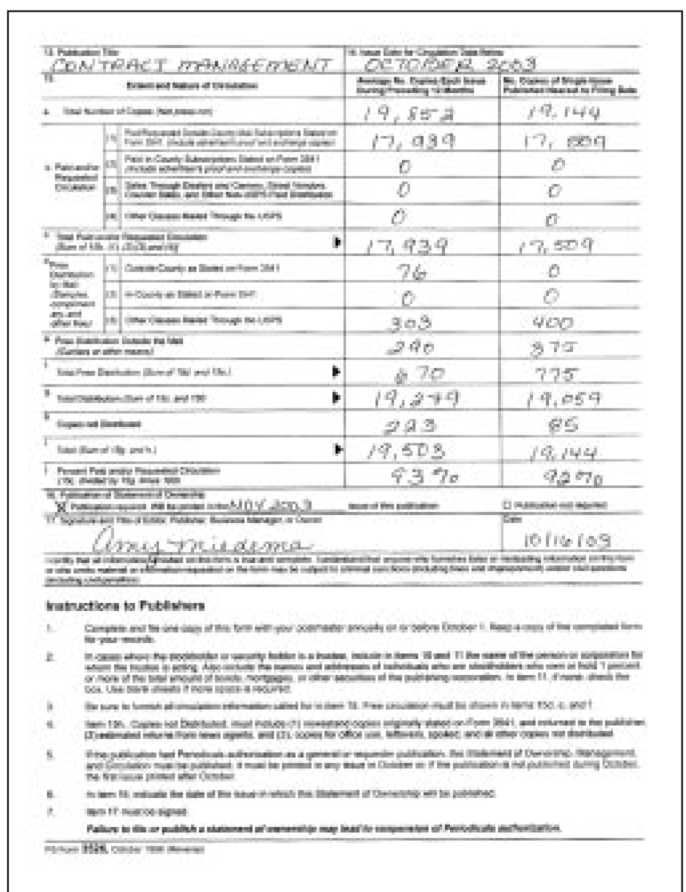
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