

IMPROVING CONTRACT PERFORMANCE BY CORRECTIVE ACTIONS PLANS

BY

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INTRODUCTION

Corrective Action Plans (CAPs) are required to be developed, submitted, and reported upon by the prime contractors for the U.S. Department of Energy (U.S. DOE) Management and Operations (M&O) contracts. The best known CAP “type,” and there are many, is for Price-Anderson Amendments Act (PAAA) “potential noncompliances.” The M&O contractor fines for PAAA problems have increased from approximately \$100,000 in 1996 to almost \$2,000,000 in 2000.

In order to improve CAP performance at the National Nuclear Security Administration (NNSA) site at Y-12 in Oak Ridge, Tennessee, the contractor chose to centralize the company-wide processes of problem identification and reporting with the PAAA (and other) CAP processes. This directly integrates these functional reports to the contractor General Manager. The functions contained in the M&O contractor central organization, called “Performance Assurance,” are:

- PAAA
- Defense Nuclear Facilities Safety Board (DNFSB) Liaison
- Contract Requirements Management
- Issues Management (including the CAP processes)
- Lessons Learned
- Independent and Management Assessments
- Internal Audits
- Ethics

By centrally locating and managing these problem identification and problem correction functions, the contractor, BWXT Y-12, L.L.C., has improved PAAA (and other) CAP performance more than 200 percent in the first year of the contract. Much of this improvement (see Table 1 for examples) has been achieved by increasing the knowledge and experience of management and workers in the specific contract and company requirements for CAPs.

The remainder of this paper will describe some of the many CAP processes at Y-12 to show the reader the non-trivial scope of the CAP process. Improvements in CAP management will be discussed. In addition, a specific recommendation for CAP management, in a major capital construction project, will be presented.

BACKGROUND

The term “Corrective Action Plan” has a general definition in Total Cost Management. For U.S. Government M&O contracts, the term CAP has several specific applications and attributes that are contractually required. This paper will: 1) discuss those types of CAPs, 2) outline an overall construct for their use, and 3) make recommendations for improvements of CAPs in U.S. Government M&O contracting.

The general process of “Corrective Action Plans” include:

- a) *Identifying the need* for a CAP
- b) *Establishing the root cause* of the problem needing correction
- c) *Developing* the CAP
- d) *Executing* the CAP

These are fundamental management skills; ones that are recognized and widely used by most program and project managers. Since the U.S. Government’s “reinvention” to a “self-regulation/oversight” posture in 1992/1993, CAPs for M&O contractors have greatly increased in both formality and complexity. This paper will provide explanation of some of these formal CAP uses with a view toward gaining efficiency by having standard application. We will also point out some of the overlapping of existing CAPs development and execution contract requirements. Reducing those overlaps could also improve M&O management efficiency.

TYPES OF CAPs AT Y-12

- a) PAAA

In this application, an issue that is deemed “programmatic,” as defined in PAAA Legislation, requires a formal CAP which must be approved and actively monitored by the U.S. DOE using the “Non-compliance Tracking System” (NTS). The CAP has specified formats and reporting periodicities.

b) DNFSB

The DNFSB was established by law as the regulatory oversight body for U.S. DOE nuclear facilities.

The contractor is responsible to respond/follow-up on DNFSB site representative, board staff, and board members' interests and concerns. Usually DNFSB CAPs must be submitted and approved by the NNSA to DNFSB via DOE Headquarters (DOE-HQ). The format is per the contractor's procedures with self-selected (but NNSA approved) reporting requirements.

c) (U.S. DOE) Corrective Action Tracking System (CATS)

DOE-HQ interest items are communicated to local NNSA offices. These items are usually already in the NTS or DNFSB purview. They track individual selected items. There are no specified formats or reporting of these CAPs.

d) Occurrence Reporting System (ORS)

This system reports noncompliances with approved formal technical and safety basis documentation. Occurrence reports are screened for PAAA and DNFSB applicability. ORS CAPs are required to conform with specified format and reporting periodicities.

e) Local (Contract) Assessment Processes

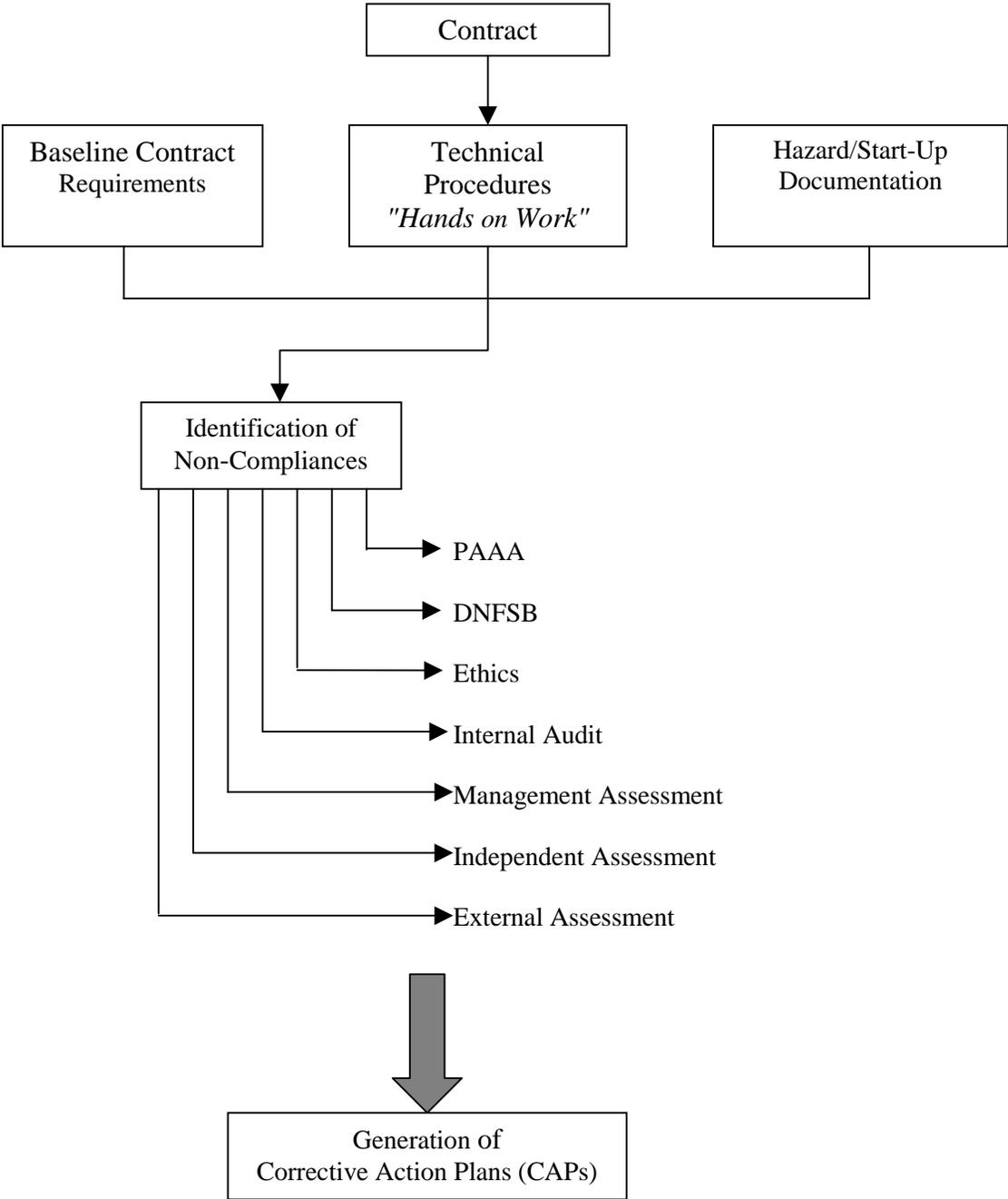
The M&O contract requires that "management will self-assess contract performance" and "report results of assessments" to meet PAAA and to provide a "check and balance." M&O contractors use site procedures to conduct management (self-) assessments and independent assessments. The CAP processes for M&O self-identified noncompliances are developed by the contractor and approved by the NNSA contracting officer. Usually, maximum commonality with other required CAP processes is sought.

The CAP processes are used as a part of demonstrating self-compliance with the M&O contract at the Y-12 NNSA site in Oak Ridge, Tennessee. That contract (No. DE-AC05-00OR22800) calls for compliance with an established set of laws, orders, and regulations using a management information system known as Standards

Management Information System. These form the contract baseline of government requirements. In a broad definition, significant deviations in contractor performance from them can be called “noncompliances.”

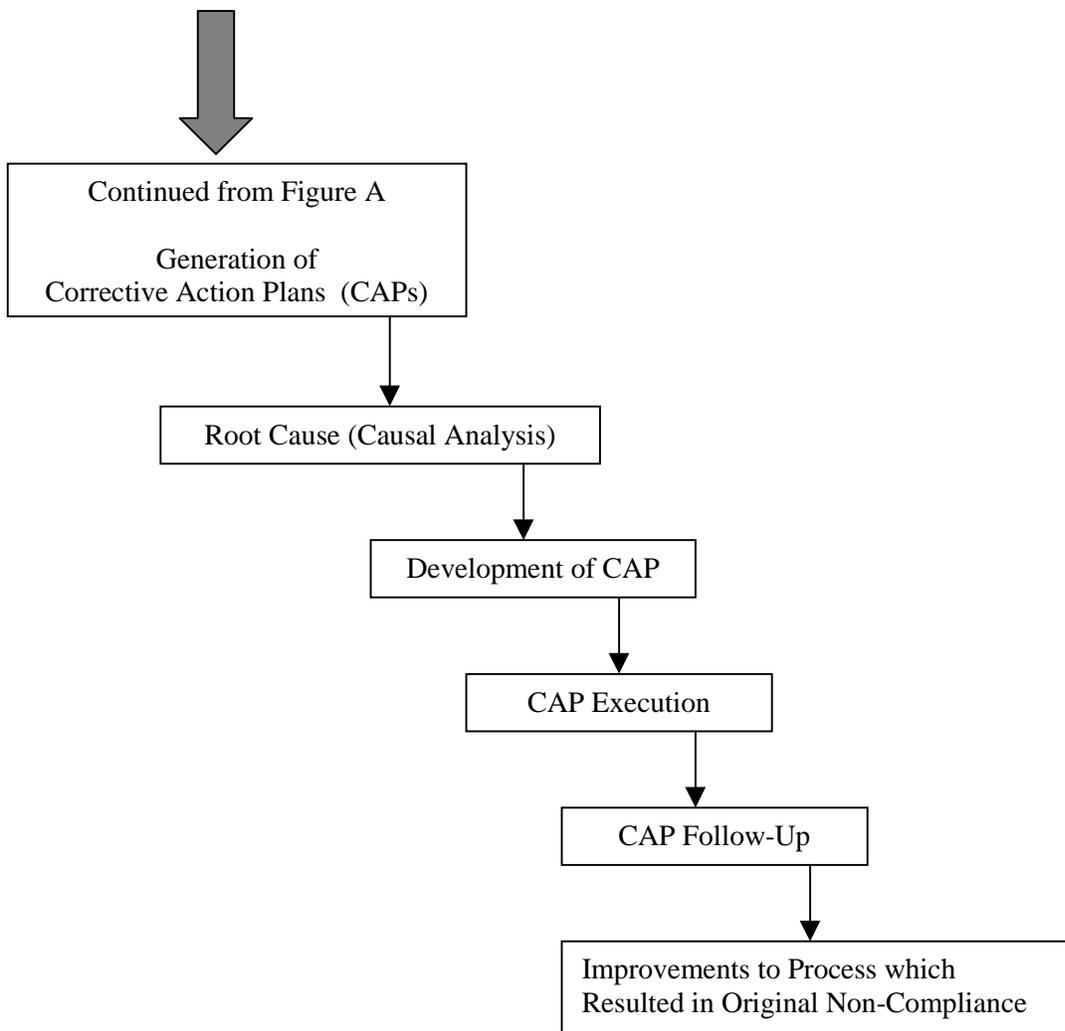
The general process used to identify and deal with “noncompliances” at Y-12 is shown in Figure A.

FIGURE A
IDENTIFYING THE NEED FOR CORRECTIVE ACTION PLANS AT Y-12



NOTE: For the remainder of this paper, the discussion will assume the valid identification of the non-compliant condition (see Figure B) and focus on the disciplined development, execution, and follow-up of CAPs for a U.S. DOE M&O contract.

FIGURE B
DEVELOPMENT AND USE OF CORRECTIVE ACTION PLANS AT Y-12



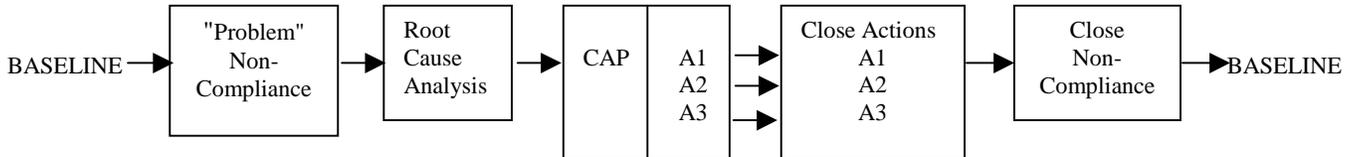
The development of the CAP begins, or should begin, with an accurate determination of the root cause and contributing cause(s) of the non-compliant condition. This process, “root cause analysis” (RCA), is the subject of a variety of techniques. Unfortunately, the disciplined exercise of such RCA techniques is, far too often, flawed. These flaws range from the CAP developer “knowing” what caused the problem (and being wrong) to “going through the motions” of RCA (but actually avoiding the real problem). By any cause, an inadequate RCA (the establishment of incorrect “cause”) will doom the rest of the CAP process to failure. It is worth noting that the goal of the CAP process and RCA is defined, and often stipulated by regulation, to provide a means of *timely and effective* correction of the identified problem or issue. It is the auditor’s intent to promote adding “efficient and sustained” to *timely and effective*. At Y-12, the most common causes of poor RCA are:

- a) Using a RCA technique such as a database software, “question to the void,” or “expert opinion” where it is not appropriate.
- b) Failing to understand/obtain the true circumstances of the issue. This is usually caused by physical/mental separation of the person doing the RCA and the people who “own” the noncompliance.
- c) Selecting easily quantified and executed actions which do not adequately ensure full correction of the problem.
- d) A lack of knowledge/understanding of the use of specific RCA techniques.

With a solid RCA, the CAP development process proceeds through the following steps as shown in Figure C:

- Establishing a clear, complete “end state,” which will truly correct and prevent reoccurrence of the problem
- Identifying the activities, logic, resources, and schedules necessary to achieve the “end state”
- Assigning responsible person (“Project Manager”)
- Tracking/reporting the progress of CAP completion
- Closing the noncompliance

FIGURE C
CORRECTIVE ACTION PLAN PROCESS AT Y-12



There is, too often, a tendency to “let down” on the CAP process after the CAP has been issued or published. In the case of a CAP that must provide information to multiple oversight organizations, this can be especially unfortunate. If all the interested parties are not kept fully informed, during the multiple “actions” necessary to correct the non-compliant condition, the odds of closing the noncompliance with all parties can be low.

Many large organizations do not appreciate the level of management system knowledge/expertise, system analysis, and project management skills, which are required to effectively conduct the correction action process. Also, few operations, environmental compliance or quality assurance personnel find the CAP process professionally or personally rewarding. The result is that the CAP process is seldom given the management or professional commitment that it needs.

The result of a poor CAP process is insidious. By definition, the program, process, or project that needs a CAP is “off track.” The impact of being “off track” is increased during active program, process, or project execution by the fact that the train is still moving. That is, most CAPs are expected to be conducted while the project proceeds apace. Returning the project to a fully compliant condition will call for additional resources, beyond those originally dedicated. Although resource/contingency should be available to the “Project Manager” to conduct the CAP, there is often a lack of appreciation of the resource commitment needs of the CAP process.

This combination of little enthusiasm for the CAP process, under estimation of impact to a project baseline, and common reluctance to commit adequate resources is a solid recipe for a poor CAP process. If the initial CAP falters and another (greater/different) non-compliant condition is identified, the struggle to return to full compliance can quickly become a vicious circle. Incomplete CAPs in one part of the project process will, all too often, become the nexus of additional noncompliances.

RECOMMENDATIONS

The solution to a poor CAP process is much the same as correcting a poor project management process. In simple terms, it might look like this:

1. Decide who is the CAP subject matter project or process expert, “CAP Manager,” in your organization.
2. Ensure that the CAP Manager understands the particular parts of the requirements baseline that applies to the project.
3. Thoroughly train and qualify the organization CAP Manager in:
 - a. RCA techniques and processing
 - b. Techniques to ensure that the CAP is timely and effective; efficient and sustained
 - c. Basic project manager techniques including project team development
 - d. Awareness and understanding of the different CAP reporting requirements for the project work being conducted
4. Create a standing organization “CAP project” management team including:
 - a. CAPs (Project) Manager
 - b. “Operations” Subject Matter Expert (SME)
 - c. Cost and Schedule SME
5. Include this CAP project team in the organization description of Project Execution Plan (including roles and responsibilities).
6. Treat each CAP, as either a single project/organization activity (simple problem), or a project network fragment (complex or high-impact problem).

7. Include CAP status in regular organization/project status reports.

The value of creating this CAP process expertise may be different, depending if the organization involved is an:

- Operations organization (i.e., Manufacturing, Construction)
- “Functional” organization (i.e., Safety, Health, or Quality)
- Program Office
- Project Team

For instance, the project team, and perhaps the program office, would have been exposed to the different customer CAP requirements and would be more likely to have awareness of, and access to, project management expertise. On the other hand, functional organizations, such as Quality Assurance, would be less likely to have project management expertise, so a more rigorous training and qualification might be necessary to realize the best results from the “CAP Project Manager” function.

SUMMARY

Implementing the recommendation to train, qualify, establish, and use a “CAP Project Manager” function in a M&O contract organization would not require any new skills, knowledge, or concepts. It might require a heightened appreciation of the potential adverse impacts of poor correction action (CAP) process. It would, also, call for a concerted management commitment to efficient processes for a relatively “minor” part of organization performance. In the author’s experience, organization performance reputations are often “fragile” in government M&O contract work. In far too many instances, failure to take timely and effective actions for “minor” noncompliances with a M&O contract have led to serious damage to contractor performance and to the M&O contractors company reputation.

CONCLUSION

CAPs should be given increased project and cost management attention. The present and planned improvements in CAPs at Y-12 will have the following positive results:

- Reduced costs of problem reoccurrences
- Reduced external oversights
- Reduced contract penalties (fines, sanctions, production stoppers)
- Reduced costs of direct CAP development and execution

which have, and will continue to, improve the company's professional reputation. We offer these results, and the methods used to achieve them at Y-12, for consideration by other program and project managers.

TABLE 1
CORRECTIVE ACTION PLAN (CAP) PERFORMANCE AT Y-12

	<u>Total Issues</u>	<u>Late Plans</u>
01-Jul-01	308	43
03-Oct-01	285	44
07-Jan-02	278	20