

Starting Up and Enterprise-wide PMO

Thomas D. Andrews, PMO Manager

National Security Technologies, LLC

Abstract

An enterprise-wide Project Management Office (PMO) can be successfully launched and institutionalized using effective organization strategies, methods, and techniques.

This paper provides a step-by-step process for starting up an enterprise-wide PMO using proven techniques to ensure that the new organization receives executive management support and aligns with the larger enterprise's business strategies and objectives. This paper discusses different types of PMOs that are appropriate, depending upon an organization's structure and business objectives. This paper further provides the reader with an understanding of how to deal with start-up and implementation challenges that are common in multi-business unit organizations; how to launch PMO programs and services and gain stakeholder acceptance; how to monitor, measure, and report PMO implementation progress and effectiveness; and how to apply accepted management assurance and oversight methodologies to verify and validate the effectiveness of developed processes and programs and continuously improve both the processes and implementation.

This paper is organized into the following content areas:

- Introduction: Characteristics of enterprise-wide PMOs, appropriateness, and value to the organization
- Launching the PMO: How to establish a policy, charter, and implementation strategy
- PMO implementation techniques and challenges
- Monitoring, measuring, and reporting progress
- Validating and maintaining PMO value-added proposition

The PMO, as described in the paper, acts a center of excellence supporting project managers in the implementation of the processes and methodologies required to achieve successful projects. Example programs are discussed that will provide the processes, people, and tools to successfully manage projects across the enterprise portfolio.

Introduction

What are the characteristics of an enterprise-wide PMO?

Three types of enterprise-wide PMOs typically considered, depending on the strategic needs and business focus of the larger enterprise, are listed below:

Project Management Competency Center

Provides project management expert assistance, staff development, training, and certification. May be the source of project management resources for specific projects. Acts as the central repository of project management knowledge, skills, and standards. A PMO provides mentoring and coaching assistance/facilitation for project planning and execution. This type of PMO is best suited for enterprises that have multiple business units with diverse missions and project types requiring project managers with significantly different education, backgrounds, and subject matter expertise.

Strategic Program Office

Operates at a strategic, executive level. Manages and communicates priorities and milestones for large projects and programs, but does not “run” individual projects. A PMO acts as an advisor to the executive level regarding project portfolio. This type of PMO is best suited for large and multi-national enterprises that may be geographically distributed across the globe and require project portfolio analysis and long-range planning input into their strategic planning process.

Operational PMO

Manages project priorities, plans, resource allocations, time and cost accounting, tasks, and milestones at a tactical level. May perform as a project office tracking and prioritizing multiple smaller projects, particularly if the individual projects are below the threshold or horizon of the Strategic Program Office. Project managers governed under this umbrella directly “run” projects. This type of PMO is best suited for enterprises that have multiple business units with similar project types or that have adopted an approach wherein a trained project manager from the PMO is assigned to manage the scope, cost, and schedule elements of a project and a principal investigator/principal scientist from the business unit is assigned to manage the research, science, and technical elements of the project.

For the purpose of this case study and white paper, the start-up of an enterprise-wide “Project Management Competency Center” type of PMO is discussed.

When is an enterprise-wide PMO appropriate?

An enterprise-wide PMO is appropriate when (1) executive management identifies the strategic need to establish and maintain consistent project delivery processes across the larger enterprise, (2) executive management understands that project management is a required core competency, and (3) the enterprise is committed to effective use of project management principles and methodologies to execute contractual work scope on-schedule, within budget, and in accordance with quality expectations of the customer.

What is the value to the organization?

An enterprise-wide PMO significantly increases the likelihood of project success by providing formal and repeatable project management processes for the planning, execution, and control of project work across the enterprise. The PMO (1) promotes management visibility of projects within the organization; (2) ensures the proper application of project management practices through project manager training so that assigned project teams have the knowledge and skills required to manage their projects; (3) establishes methods to appropriately select and assign project managers to projects based on their experience and the project’s size, complexity, and risk; and (4) establishes the processes and systems to manage, monitor, control, and report project performance.

Step 1: Plan and Launch the PMO

Establish a Project Management Policy

A Project Management Policy is the vehicle used to document and announce enterprise commitment to achieve and maintain excellence in project management.

- **Aligning with the Larger Organization Business Strategies and Objectives**

Successful PMOs align their mission objectives with the larger organization business strategies and objectives. The strategic objectives most commonly aligned to are associated with efficiency and effectiveness in the delivery of projects. Reducing costs, increasing quality, and more effectively utilizing limited resources to meet customer requirements are common drivers in today’s competitive business environment.

- Executive Endorsement

The importance of obtaining strong executive management endorsement is essential. Executive endorsement provides the PMO with the authority to develop processes and procedures to guide the conduct of project management activities across the enterprise, regardless of the business unit in which the project is being conducted. Executive management must establish and continually reinforce the PMO's authority to promulgate processes and procedures and conduct project reviews, management assessments, and surveillances of project activities to ensure that the processes are being implemented properly. The executive sponsor and/or the president of the enterprise should sign the Project Management Policy and the Enterprise-Wide PMO Charter discussed below.

Establish a PMO Charter

The PMO should be chartered by a senior executive who can champion the PMO and authorize the:

- *Resources* needed to properly staff the PMO and execute the charter,
- *Authority* needed to promote enterprise-wide change effectively,
- *Independence* to sustain objectivity,
- *Oversight* to keep project work aligned with the enterprise's business strategy, and
- *Legitimacy* to overcome the challenges and resistance that may emanate from select business units.

A PMO Charter is the instrument used to define the development approach and delineates stakeholder management expectations for the new organization. The vision, mission, objectives, and metrics for the PMO should be presented as well as roles and responsibilities for the PMO and its stakeholders.

- **Mission:** The mission of the PMO is to (1) put in place a highly effective approach to project management resulting in project scope, schedule, and cost performance success on every project undertaken by the enterprise; and (2) create a foundation for consistent project success throughout the enterprise through the development of a strong and pervasive project management culture and supporting environment.
- **Purpose and Objectives:** An enterprise-wide PMO has four primary objectives.

Achieve excellence in project management...	→	Foster a supporting culture that establishes project management as a core business process and translates into successful projects.
Build project management professionalism among project practitioners...	→	Mentor, train, and guide the project managers and teams as they learn and then adopt project management best practices in their projects.
Keep <i>executive and business unit</i> management teams and project management practitioners informed...	→	Communicate project performance through continual monitoring and evaluation and enterprise-level reports, and assess and report on progress at institutionalizing project management.
Serve as <i>the enterprise's</i> authority on project management practices...	→	Set the standard; provide the expertise, processes, and tools; and function as the resident advocate and model for good project management practice.

- Implementation Strategy

The PMO should model itself as a learning organization facilitator. A learning organization is defined as “an organization that facilitates the learning of all its members and continuously transforms itself to achieve superior competitive performance.”

Learning organizations have the following characteristics: (1) Adapt to their external environment and continually enhance their capability to change/adapt; (2) Develop collective as well as individual learning, and use the results of learning to achieve better results; (3) Learn from both failure and success, understanding that finger pointing and blame are detrimental; and (4) Link individual performance with organization performance.

- Roles and Responsibilities: The role of the enterprise-wide PMO is to serve as a company-level asset for project management that promotes project management excellence. In a “Project Competency Center” PMO approach, business unit management maintains responsibility for “what” projects are delivered, and the PMO maintains responsibility for “how” the projects are delivered.

The major responsibilities of an enterprise-wide “competency center” type PMO are as follows:

Oversight:

- Serve as the enterprise’s authority on project management practice.
- Review and monitor project selection by business unit management for high risk/high dollar projects, and brief senior management.
- Collect data, monitor, and report the status of the overall enterprise portfolio.
- Identify and monitor projects demonstrating superior performance and assist in transfer of best practices.
- Hold project “phase gate” reviews to for adequacy of process implementation and to determine confidence levels.
- Provide regular reports on behalf of enterprise management:
 - Earned value management reporting and analysis of data generated through a project control reporting system.
 - Project management related performance measure reporting when required as part of the annual enterprise analyses.
- Provide project assistance for project initiation, planning, and risk management.

Processes:

- Develop and implement a project management performance model in a disciplined, rigorous, and consistent manner company-wide.
- Set the company-wide project management standards and procedures.
- Incorporate strategic planning objectives into project management functional requirements and processes.

People:

- Perform project management human capital planning to ensure the enterprise develops and maintains adequate levels of skilled project management resources.
- Develop and maintain a project manager training and certification program and train enterprise project managers in all business units in a full range of project management topics.
- Develop and maintain a project manager qualification standard program.
- Establish and maintain a project manager job classification system to provide a career path for project management professionals.

- Provide training to all levels of enterprise management so that supervisors, middle managers, and executives each understand their role in making projects a success.
- Develop and maintain a recognition program for excellence in project management.
- Mentor project managers and project teams.

Tools:

- Provide Earned Value Management System (EVMS) and, if appropriate, EVMS certification.
 - Develop and maintain a project management lessons learned program to ensure a robust flow of lessons learned.
 - Independently report on project management issues and opportunities – as they arise.
 - Select and implement project management software tools for enterprise-wide use.
 - Provide expertise on meeting contractual or regulatory requirements.
- **Staffing and Structure:** The PMO Manager should report to the executive sponsor. The organizational structure of the PMO is shown in Exhibit 1. The structure includes an element for vetting and socializing project management processes with affected business units through the use of a Project Management Council (PMC). The PMC is made up of project management subject matter experts from each business unit who represent their business unit project management practitioners and act as a conduit between the PMO and the business unit management (see “Vetting Processes and Procedures with Users” in Step 2 below).

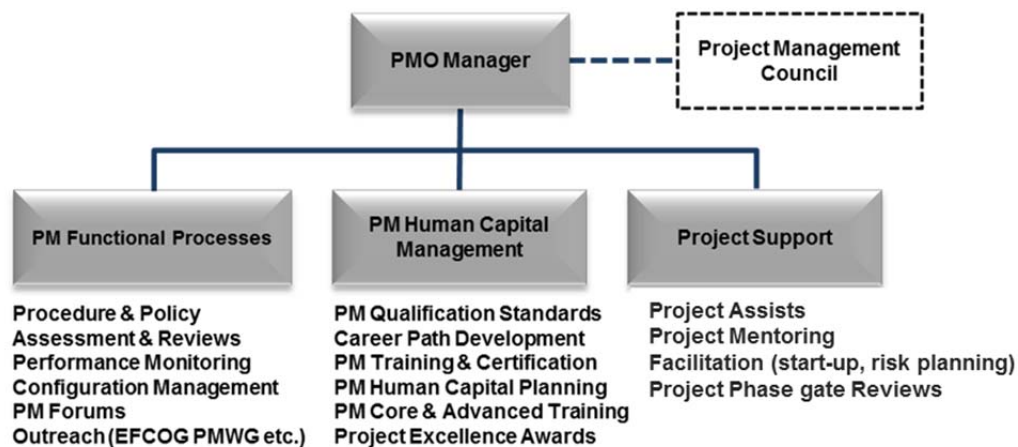


Exhibit 1. Example Project Competency Center type PMO

A “competency center” type enterprise-wide PMO can be structured to address three main areas of services: (1) Project Management Functional Processes, (2) Project Management Human Capital Management, and (3) Project Support. The services provided under each of these areas are indicated in the Exhibit above.

Communications

Communication of enterprise-wide policies, processes, procedures, and lessons learned can be accomplished by various methods including forums, webinars, email announcements, training workshops, or corporate communications vehicles (newsletters, streaming announcements on web pages, etc.). Communication of project management performance data and metrics should be accomplished by means of dashboard reports and published report data maintained on intranet websites (SharePoint or other methods). Communication to executive management should also be accomplished through periodic status reporting (monthly and quarterly) and should include one-off reports when forensic reviews of troubled projects or special events warrant.

Step 2: PMO Implementation (Techniques and Challenges)

Establishing Success Criteria and Metrics

The PMO will have long-term success if the following can be achieved:

- Enterprise executive management supports the PMO and its objectives, and demonstrates commitment to its success.
- Project management is recognized as a core competency.
- PMO policies, processes, and support services are introduced in a phased manner, and their implementation is prioritized in a time-phased manner.
- A consistent approach to planning and managing projects is implemented.
- Internal project management training is provided at all levels (from staff to Senior Executive).
- Commercial off-the-shelf software is used for planning, estimating, scheduling, and tracking.
- Company-wide project reporting is established and maintained.
- The PMO's balance between project support and control functions is defined and communicated through the PMC to ensure that departments understand what is expected of them and what they should expect from the PMO.
- PMO leverages industry standards and best practices and benchmarks from/of other companies.
- PMO designs and deploys a scalable project management processes and tools.
- A rewards and recognition program is implemented that specifically supports the project management process.

Launching Programs and Services

- Processes (Standards and Procedures)

A standards based approach should be used in defining and developing PMO processes and procedures. Accepted industry standards and regulatory requirements are the best sources for deriving project management processes as they contain proven best practices. Contractual requirements, if applicable, will also need to be taken into account. Once drafted, procedures should be vetted with the users (business unit project management practitioners) and their feedback addressed. This will improve acceptance of the process/procedure once published.

- People (Training and Qualification)

The development and implementation of a project management training and certification program is required to ensure that project managers receive the necessary core training covering the skills and techniques necessary to successfully initiate, plan, execute, monitor, control, and close out projects within the enterprise portfolio. This element also includes communication of ongoing project management training and status reporting as well as development and conduct of additional training courses on advanced project management aspects to achieve specific project manager qualification goals. It is important that project managers and project team members are trained to the processes and procedures and fully understand how to best utilize recommended practices. Accordingly, project managers, control account managers, work package managers, and project control engineers should receive initial training as well as annual refresher training.

The establishment of a Project Manager Qualification Standard is recommended that has traction with each of the enterprise's business units and their varying project types. This will establish the enterprise capability to select project managers for project assignments based on their documented years of

experience in types of projects worked (complexity, size, duration, cost), regulatory environments, and specialized technical processes. The structure of an integrated training and certification program for project practitioners is depicted in the Exhibit below.

Exhibit 2. Project Manager Training, Certification, and Qualification Programs

Initial Project Management Training Program				
Initial Project Management (Earned Value Management System) Training.				
Project Managers	<p>All project team members assigned to these roles are required to:</p> <ul style="list-style-type: none">Complete initial 8-hour training course on project management procedure(s). Includes EVMS terms and concepts.Complete refresher web-based training course on project management procedure(s). Includes EVMS terms and concepts. <p>Note: Project Managers and other qualified personnel should be required to complete 32 hours of additional Project Management training to apply for Project Manager Certification.</p>			
Control Account Managers				
Work Package Managers				
Project Control Engineers				
Project Manager Certification Program				
Implement a four-tier certification protocol for Project Managers that provides an enterprise-wide standard for Project Manager competency across business units.				
Certification Level	Education	Experience	Knowledge, Skills, & Abilities	Competencies
Base	Requirements specified at each certification level (e.g., Bachelor of Science degree)	Minimum experience requirements in a project management environment and as the designated Project Manager	Requirements include understanding of project management processes, methodologies, and best practices (e.g., risk management, stakeholder management)	Documented abilities in critical thinking, problem solving, collaboration, and decision making
Intermediate				
Advanced				
Master				
Project Manager Qualification Standards Program				
Business unit specific qualification standards should be developed to address specific categories of projects executed within a specific business unit.				
Business Unit	Qualification Standards			
Unit A	<ul style="list-style-type: none">Number of years of experience managing specialized project types and/or projects in a specific business unit mission/technical area (examples: R&D, IT, Security, Environmental, Construction, Other)Specialized experience leading projects and project teams within complex regulatory environments (examples: Complex Nuclear Projects meeting stringent regulatory standards, Environmental Projects under RCRA, Commercial/Facility Projects meeting LEED and green building requirements)Experience leading projects and project teams on projects involving specialized technical processes (examples: experiments, pharmaceuticals, food and beverage, waste treatment processes, electrical transmission and distribution)			
Unit B				
Unit C				
Unit C				
Other				

- Tools (Applications, Job Aids, Checklists, Templates, and Forms)

Developing and maintaining an integrated project management system to support all business unit project activities is required to monitor, control, and report project work at the enterprise level. PMOs need to provide an enterprise-wide scheduling and resource planning capability that supports all business unit functions. Enterprise-wide project control systems should include the elements depicted in Exhibit 3 below. Common tools include scheduling applications, risk management (Monte Carlo) applications, EVMS processing application, EVMS data reporting applications, checklists, templates, and forms.

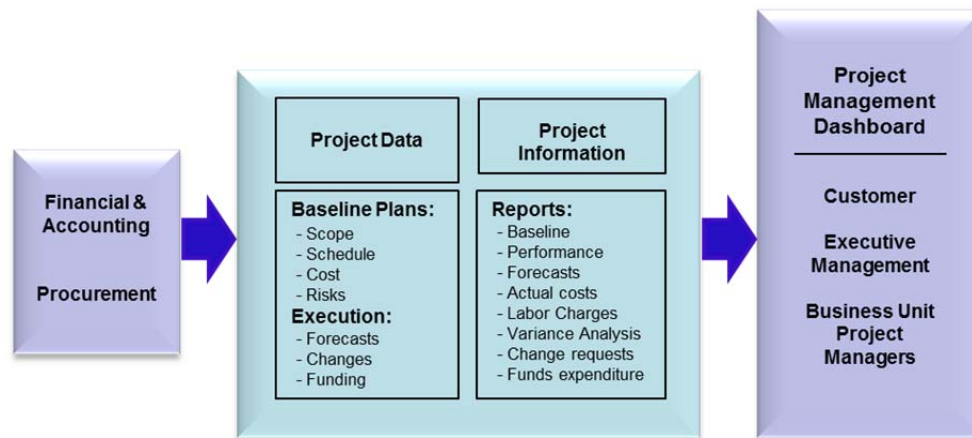


Exhibit 3. Elements of an Enterprise-wide Project Control and Reporting System

Vetting Processes and Procedures with Users

The vetting and socialization of project management processes, policies, and procedures is necessary to ensure acceptance by the project management practitioners in the various business units. As discussed above, it can be accomplished through the use of a PMC made up of knowledgeable representatives for each of the major business units that conduct project management activities. PMC members act as the “senior champions” of project management within their business units and, as an extension of the PMO, serve as advocates of sound project management practice and a source for subject matter expertise. PMC members should be carefully chosen based on their knowledge and experience of both project management and the business unit mission.

Obtaining and Maintaining PMO Staff

An enterprise-wide PMO has four potential sources of staff: (1) new hires, (2) direct appointment of existing enterprise staff into the PMO, (3) temporary assignments from other departments (report to PMO via dotted line), and (4) contracted staff (as needed to provide expertise or staffing not available within enterprise). It is extremely important that staff selected for the PMO have extensive prior experience in project management and in being previously assigned project managers. The organization structure and basic services outlined in Exhibit 1 above provides a task breakdown for a full-time PMO staff of 4 to 6 personnel (the industry average size for PMOs) to maintain an active staffing focus.

Step 3: Monitoring, Measuring, and Reporting Progress

Management Assessments and Surveillances

The PMO should develop and employ appropriate assessment instrument(s) to determine the effectiveness of project management process implementation. These instruments may include formal management assessments, project surveillances, and project reviews and be supported by effective project performance trending and analysis. The PMO should collect information from systems that provide accurate project performance data as discussed above in Step 2.

Developing and Reporting Metrics

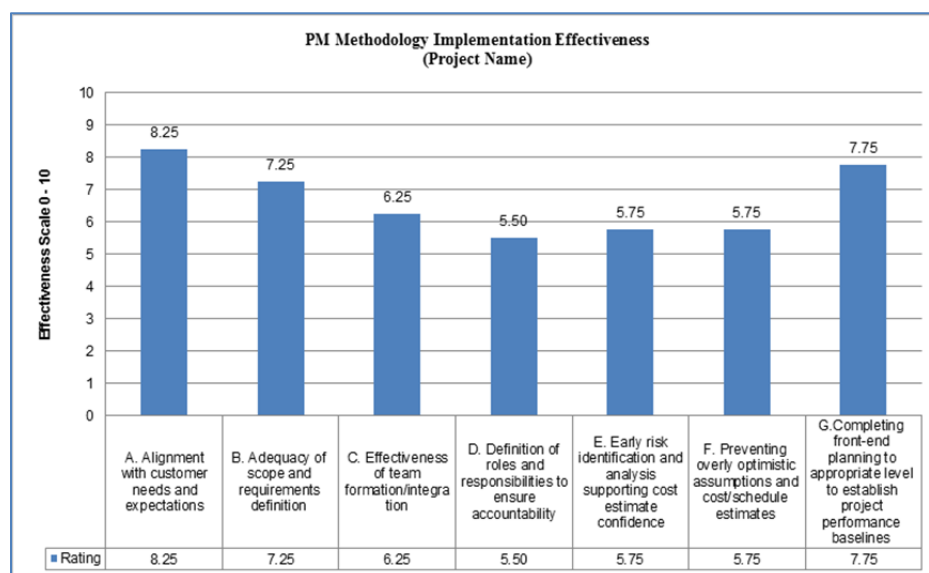
The most commonly used project management metrics are those derived from EVMS and include monthly, quarterly, and annual reporting of cost performance, schedule performance, estimates at completion, and variance at completion for each separate project, for groups of projects within a business unit or program, and finally a summary roll-up providing overall performance for each business unit and the overall enterprise. As depicted in Exhibit 3 above, EVMS reporting can be provided on an enterprise dashboard that is accessed by business unit management, executive management, board of directors, and in some cases customers.

Additionally, metrics from management assessments, project surveillances, and project reviews can also be developed to record and track findings, opportunities for improvement, and best practices as identified during the assessments and surveillances. This type of metric data can be used to identify and correct systemic issues that may be recurring at an undersireable rate.

Step 4: Validating and Maintaining PMO Value Add Proposition

Verification of the Adequacy of Programs and Services

Adequacy of PMO programs and services are verified by establishing standards of performance representing effective implementation of the PMO's processes and procedures. The PMO should define metrics that are responsive to the procedural requirements and that can be used to measure, track, and monitor implementation effectiveness. Provided in Exhibit 4 below are example categories of project management activities for establishing metrics to monitor effective implementation of project "initiation and planning" methodologies.



Rating	Scale	Rating Common Description
Excellent	>8	Performance objectives and criteria were exceeded
Satisfactory	5 to 8	Performance objectives and criteria were met
Unsatisfactory	<5	Performance objectives and criteria were not met

Exhibit 4. Project Initiation and Planning Effectiveness Metrics

Validation of Implementation Effectiveness

- Self-assessment

Management Assessments: Perform Management Assessments, utilizing PMO subject matter expertise, following accepted quality assurance principles to plan, ensure, and control compliance with the enterprise's project management processes and procedures.

Surveillance: Perform surveillances on projects that exhibit performance challenges, fall below acceptable EVMS performance thresholds as established by executive management, or have encountered upset conditions.

Project Reviews: Perform project reviews in accordance with the developed standard with a team of subject matter experts in project management from the PMO who have extensive backgrounds in project management, hold external and/or internal certifications in project management, and understand the enterprise-wide project

management processes and methodologies defined in the procedures. The project review team can be supplemented by a subject matter expert in project management selected from the business unit in which the project under review is being executed, who understands the business unit's portfolio, who is not directly involved in the project, and who also holds project management certification.

- Independent Assessment

Forensic Reviews and Root Cause Analysis: Perform forensic reviews and/or root cause analysis utilizing external experts in project management and root cause analysis for projects that have encountered serious upset conditions that have caused customer dissatisfaction and for which a higher level of independence is required to support customer and executive management concerns.

Conclusion

An enterprise-wide PMO can be launched using the proven techniques discussed in this white paper. By following these techniques, an enterprise-wide PMO will be able to obtain strong executive management support, which is essential to the success of the PMO, and align with the larger organization's business strategies and objectives. The selection of the type of PMO that is most appropriate for a given organization depends on the organizational structure and business focus of the enterprise. Organizations that have multiple business units with very different missions and project types can best be served by the Project Management Competency Center type of PMO. Organizations that have business units with common project types or that have adopted a teamed "project manager working with a principal investigator" approach can be best served by an Operational PMO. Larger and multi-national enterprises that have business units that are geographically distributed are best served by a combination of an enterprise-wide Strategic Program Office that interfaces with localized Operational PMOs in each geographical area and business unit. The methods for starting up an enterprise-wide PMO; how to launch PMO programs and services; how to implement PMO programs and address challenges that are common in multi-business unit organizations; how to monitor, measure, and report implementation progress; and how to apply accepted management assurance and oversight methodologies to verify and validate the effectiveness of PMO developed processes and programs can be employed to sustain the effectiveness of PMO processes regardless of the type of PMO selected.

This manuscript has been authored by National Security Technologies, LLC, under Contract No. DE-AC52-06NA25946 with the U.S. Department of Energy. The United States Government retains and the publisher, by accepting the article for publication, acknowledges that the United States Government retains a non-exclusive, paid-up, irrevocable, world-wide license to publish or reproduce the published form of this manuscript, or allow others to do so, for United States Government purposes.