



Strategic Roadmap for Programmatic Cost Estimating

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Welcome to CECOP 2022!

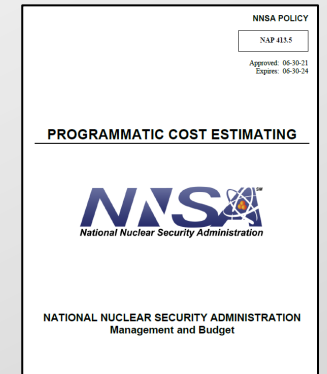
- Background and Roadmap Objectives
- Summary Categories
- Detailed Categories
- Metrics for Scoring & Tracking
- Next Steps + Opportunities for Collaboration

Background and Roadmap Objectives

INNOVATE. COLLABORATE. DELIVER.

History on Programmatic Cost Estimating

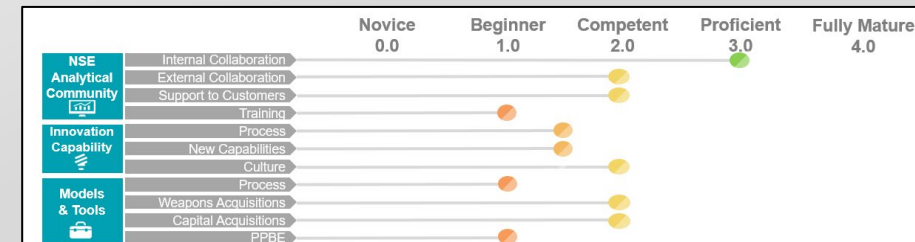
- 2019: NNSA's Administrator executed PPBE realignment and centralized cost estimating functions:
 - NA-MB for programmatic cost estimating
 - CEPE for independent cost estimating
- 2021: NNSA's Administrator established *Programmatic Cost Estimating* policy
- 2022: Cost Estimating Analysis Group (CEAG) published "*Strategic Roadmap for Programmatic Cost Estimating*"*



NNSA's *Programmatic Cost Estimating* policy drafted by NA-MB (June 2021)

Roadmap Objectives

1. Define programmatic cost estimating capabilities:
 - *NSE Analytical Community*
 - *Innovation Capability*
 - *Models and Tools*
 - *Knowledge and Data Management*
 - *Policy and Guidance*
 - *Workforce*
2. Define *maturity scale* (e.g. novice, competent, etc)
3. Metrics to *objectively track maturation*
4. Communication of *priorities and progression*



Roadmap will establish quantifiable metrics for scoring

- Background and Roadmap Objectives
- **Summary Categories**
- Detailed Categories
- Metrics for Scoring & Tracking
- Next Steps + Opportunities for Collaboration

- *6 summary categories*
- *Maturity scale for categories*
 - 0 = novice*
 - 1 = beginner*
 - 2 = competent*
 - 3 = proficient*
 - 4 = fully mature*

Roadmap Categories (Summary Level, Page 1 of 2)

	Novice	Beginner	Competent	Proficient	Fully Mature
	0.0	1.0	2.0	3.0	4.0
1. NSE Analytical Community	<i>No NSE analytical community exists.</i>	<p><u>Minimal</u> NSE analytical community representation with CEAG and CECOP.</p> <p><u>Minimal</u> collaboration with external organizations. (e.g. ICEAA, AACE, MORS, etc) or other government agencies (e.g. DoD, NASA, DOE-CF).</p> <p><u>Minimal</u> analytical support provided to customers (Program Offices, NA-APM, or M&O).</p> <p><u>Minimal</u> training available to NSE analytical community.</p>	<p><u>Limited</u> NSE analytical community representation with CEAG and CECOP.</p> <p><u>Limited</u> collaboration with external organizations.</p> <p><u>Limited and/or ad-hoc</u> analytical support provided to customers.</p> <p><u>Limited</u> analytical training available to NSE analytical community.</p>	<p><u>Most</u> NSE analytical community organizations are represented with CEAG and CECOP.</p> <p><u>Regular</u> collaboration with external organizations.</p> <p>Customers receive <u>limited direct</u> analytical support.</p> <p><u>Core suite</u> (cost analysis, acquisition processes) training available to NSE analytical community.</p>	<p><u>All</u> NSE analytical community organizations are represented with CEAG and CECOP.</p> <p><u>Regular</u> collaboration with external organizations that <u>includes a leadership role</u>.</p> <p>Customers receive <u>full time direct</u> analytical support.</p> <p><u>Full suite</u> (cost, schedule, risk, etc) training available to NSE analytical community.</p>
2. Innovation Capability	<i>No innovation capability exists.</i>	<p><u>Minimal</u> in-house ability to innovate or leverage best practices conducted by others.</p> <p><u>Limited</u> development of an integrated priority list for innovation and development.</p> <p><u>No</u> assessment of innovation capability impacts.</p>	<p><u>Limited</u> in-house capability. Innovation activities are not prioritized and conducted on ad-hoc basis.</p> <p><u>Limited</u> development and prioritization of innovation proposals.</p> <p><u>Some</u> staff and stakeholders provide input into the process.</p> <p><u>Limited</u> ad-hoc assessment of innovation capability to demonstrate impact on cost management.</p>	<p><u>Full</u> in-house innovation capability to support new technologies and new analytical techniques.</p> <p><u>Most</u> innovation activities can be executed based on demand with existing resources, rather than staff availability.</p> <p><u>Fully</u> defined innovation development and prioritization process that is routinely exercised.</p> <p>Impact of innovation capability is <u>occasionally</u> evaluated against <u>fully</u> well-defined metrics to demonstrate impact.</p> <p><u>Most</u> staff and stakeholders provide input into the process.</p>	<p><u>Full</u> in-house innovation capability to support new technologies and new analytical techniques.</p> <p><u>All</u> innovation demands can be executed based with existing resources.</p> <p>Impact of innovation capability is <u>often</u> evaluated against <u>fully</u> well-defined metrics to demonstrate impact on cost management.</p> <p><u>All</u> staff and stakeholders provide input into the process.</p>
3. Models and Tools	<i>No standard analytical models and tools.</i>	<p><u>Minimal</u> agency-specific models and tools, with <u>most</u> sourced from external organizations.</p>	<p><u>Limited</u> agency-specific models and tools for a <u>limited</u> number of program or estimate types.</p> <p><u>Limited</u> description of models and tools in policy or guidance.</p> <p><u>Limited</u> or partial validation by internal NNSA elements.</p>	<p><u>Most</u> models and tools are agency-specific and exist for <u>most</u> program or estimate types.</p> <p><u>Most</u> models and tools are well-defined for <u>most</u> processes in the product life-cycle.</p> <p><u>Most</u> models and tools are validated by NSE analytical community, with <u>limited</u> review from external stakeholders.</p>	<p><u>All</u> models and tools are agency-specific and exist for <u>all</u> program or estimate types.</p> <p><u>All</u> models and tools are well-defined for <u>every</u> milestone in the product life-cycle.</p> <p><u>Most</u> models and tools are recommended in guidance.</p> <p><u>All</u> are validated by NSE analytical community, with routine and <u>full</u> review from external stakeholders.</p>

Roadmap Categories (Summary Level, Page 2 of 2)

	Novice	Beginner	Competent	Proficient	Fully Mature
	0.0	1.0	2.0	3.0	4.0
4. Knowledge and Data Management	<i>No implemented knowledge management or data management processes.</i>	<i>Minimal structure or templates of final products or supporting analyses.</i> <i>Minimal use of a decentralized collaboration sites across the NSE analytical community.</i> <i>Minimal processes exist for collecting, storing, and publishing data.</i>	<i>Limited sharing of final products and supporting analysis on a centralized shared network with a defined folder structure.</i> <i>Limited use of a centralized collaboration site across the NSE analytical community.</i> <i>Limited processes exist for collecting, storing, and publishing data for some specific data sets.</i>	<i>Most final products and files hosted on well-organized and defined structure on a centralized collaboration site with appropriate external permissions for access.</i> <i>Most of the NSE analytical community uses a centralized collaboration site.</i> <i>Well-developed processes exist for collecting, storing, and publishing data for most data sets.</i>	<i>Fully functional knowledge management structure for final products and supporting analysis with appropriate permissions for access.</i> <i>All of NSE analytical community uses a centralized collaboration site.</i> <i>Well-developed processes exist for collecting, storing, and publishing data for all data sets</i>
5. Policy and Guidance	<i>No documented policy or guidance.</i>	<i>Minimal agency-specific policy and guidance, with most sourced from external organizations.</i> <i>Minimal documentation of requirements, applicability, roles, responsibilities, deliverables, and key methods/procedures.</i>	<i>Limited policy and guidance defining organizational roles, responsibilities, and milestone deliverables.</i> <i>Limited documentation for methods/procedures (e.g., standard WBS, escalation, data collection, cost reporting).</i>	<i>Policy and guidance define most organizational roles, responsibilities, and milestone deliverables.</i> <i>Most methods/procedures are well documented for acquisition type and milestone (e.g., specific methods and models used for a Phase 6.1/CD-0 versus BCR/CD-2, handling risk and uncertainty, performing sensitivity analyses).</i> <i>Limited integration of acquisition and financial management practices.</i>	<i>Policy and guidance define all organizational roles, responsibilities, and milestone deliverables.</i> <i>All methods/procedures are well-documented for each acquisition type and milestone.</i> <i>Fully integrated acquisition and financial management practices.</i>
6. Workforce	<i>No dedicated analytical staff.</i>	<i>Minimal number of staff or experience mix (e.g. too few senior analysts) to support mission requirements.</i> <i>No ability to expand or surge to meet unanticipated requirements.</i>	<i>Limited number of staff or experience mix to support mission requirements.</i> <i>No ability to expand or surge to meet unanticipated requirements.</i>	<i>Sufficient number of staff and experience mix to support mission requirements.</i> <i>Limited ability to expand or surge to meet unanticipated requirements.</i>	<i>Sufficient number of staff and experience mix to support mission requirements.</i> <i>Fully able to expand or surge to meet unanticipated requirements.</i>

- Background and Roadmap Objectives
- Summary Categories
- **Detailed Categories**
- Metrics for Scoring & Tracking
- Next Steps + Opportunities for Collaboration

- *Lower-level detail (24 sub-categories)*
- *Includes specific activities and anticipated timeline (e.g. “Conduct a gap analysis in year 1.”)*

Category #1 - NSE Analytical Community

	Novice 0.0	Beginner 1.0	Competent 2.0	Proficient 3.0	Fully Mature 4.0
NSE Analytical Community	<i>No NSE analytical community exists.</i>	<i>Minimal NSE analytical community representation with CEAG and CECOP.</i> <i>Minimal collaboration with external organizations. (e.g. ICEEA, AACE, MORS, etc) or other government agencies (e.g. DoD, NASA, DOE-CF).</i> <i>Minimal analytical support provided to customers.</i> <i>Minimal training available to NSE analytical community.</i>	<i>Limited NSE analytical community representation with CEAG and CECOP.</i> <i>Limited collaboration with external organizations.</i> <i>Limited and/or ad-hoc analytical support provided to customers.</i> <i>Limited analytical training available to NSE analytical community.</i>	<i>Most NSE analytical community organizations are represented with CEAG and CECOP.</i> <i>Regular collaboration with external organizations.</i> <i>Customers receive limited direct analytical support.</i> <i>Core suite (cost analysis, acquisition processes) training available to NSE analytical community.</i>	<i>All NSE analytical community organizations are represented with CEAG and CECOP.</i> <i>Regular collaboration with external organizations that includes a leadership role.</i> <i>Customers receive full time direct analytical support.</i> <i>Full suite (cost, schedule, risk, etc) training available to NSE analytical community.</i>
1. Collaboration within the NSE analytical community <i>(10 members comprised of 8 M&Os, PA&E, and CEPE)</i>	<i>No framework or community of practice exists for NSE analytical organizations to collaborate.</i>	An NSE specific framework and community of practice exist, but only a <u>minimal</u> number of members are represented.	<u>Limited</u> (1-5) NSE analytical organizations have capability to support weapons modernization and capital acquisitions. <u>Limited</u> (1-5) NSE analytical community members present in CECOP Symposiums. <u>Limited</u> CEAG projects include representatives from most NSE analytical community members. Establish a CEAG sub-group on historical cost data collection with membership from all community members.	<u>Most</u> (6 or greater) NSE analytical organizations have capability to support weapons modernization and capital acquisition cost estimates. (5 yrs) <u>Most</u> (6 or greater) NSE analytical organizations propose and/or participate in collaborative efforts executed under CEAG and CECOP. (2-3 yrs) Establish a CEAG sub-group on innovative modeling capabilities with membership from all community members.	<u>All</u> NSE analytical organizations have capability to support weapons modernization and capital acquisition cost estimates. (10 yrs) Annual customer reviews of CEAG and CECOP portfolios to inform future direction. (3-4 yrs)
2. Collaboration with external community <i>Professional analytical organizations and other government office such as DoD and DOE-CF</i>	<i>No members of NSE analytical community attend external cost estimating conferences.</i> <i>CEAG & CECOP includes no external community organizations.</i>	CECOP symposiums include a <u>minimal</u> number of external community organizations. <u>Minimal</u> NSE analytical community organizations attend external professional conferences (e.g. AACEI, ICEEA) or other government agencies (e.g. DoD, NASA)	<u>Limited</u> number of external community organizations attend CECOP. <u>Some</u> NSE analytical members contribute to external professional organizations and forums (e.g. AACEI, MORS, ICEEA) and other government office symposiums (e.g. NASA, DoD).	<u>Numerous</u> external community organizations attend CECOP as presenters. <u>Most</u> NSE analytical members contribute to external professional organizations and forums (e.g. AACEI, MORS, ICEEA) and other government office symposiums (e.g. NASA, DoD).	<u>All</u> NSE analytical members contribute and some have significant leadership roles in external professional organizations and forums (e.g. AACEI, MORS, ICEEA) and other government office symposiums (e.g. NASA, DoD). (3-4 yrs)
3. Analytical Support to NNSA or M&O Partners <i>NNSA Program Offices, NA-APM, M&Os.</i>	The NSE analytical community has <u>no capability</u> to support NNSA or M&O partners.	CEAG has capability to support NNSA or M&O partners by <u>reviewing</u> analytical products (e.g. cost estimates, requirements, EVMS, etc).	CEAG has capability to support NNSA or M&O partners by <u>developing independent</u> analytical products (e.g. benchmarking).	CEAG provides <u>limited direct</u> analytical support to <u>most</u> partners during estimate development (e.g. site specific workshops and/or targeted working sessions). (3-4 yrs)	CEAG provides <u>full-time direct</u> analytical support to <u>all</u> partners to improve structural abilities and/or projects during estimate development. (4-6 yrs)
4. NSE Analytical Community Training	<i>No training</i> is provided to the NSE Analytical Community.	<u>Minimal</u> training provided to NSE Analytical Community in an ad-hoc, decentralized manner.	Established a CEAG sub-group on training with membership from all community members. (1-2 yrs) CEAG training group completes an initial needs assessment and gap analysis. (2-3 yrs)	CEAG's training group publishes an initial catalog of recommended training classes and related opportunities (e.g. rotations, details, certifications, training programs, etc). (2-4 yrs)	CEAG's training group actively maintains a catalog of recommended training for the NSE analytical community. (4-5 yrs)

Category #2 - Innovation Capability

	Novice	Beginner	Competent	Proficient	Fully Mature
	0.0	1.0	2.0	3.0	4.0
Innovation Capability	<i>No innovation capability exists.</i>	<p><i>Minimal in-house ability to innovate or leverage best practices conducted by others.</i></p> <p><i>Limited development of an integrated priority list for innovation and development.</i></p> <p><i>No assessment of innovation capability impacts.</i></p>	<p><i>Limited in-house capability. Innovation activities are not prioritized and conducted on ad-hoc basis.</i></p> <p><i>Limited development and prioritization of innovation proposals.</i></p> <p><i>Some staff and stakeholders provide input into the process.</i></p> <p><i>Limited ad-hoc assessment of innovation capability to demonstrate impact on cost management.</i></p>	<p><i>Full in-house innovation capability to support new technologies and new analytical techniques.</i></p> <p><i>Most innovation activities can be executed based on demand with existing resources, rather than staff availability.</i></p> <p><i>Fully defined innovation development and prioritization process that is routinely exercised.</i></p> <p><i>Impact of innovation capability is occasionally evaluated against fully well-defined metrics to demonstrate impact.</i></p> <p><i>Most staff and stakeholders provide input into the process.</i></p>	<p><i>Full in-house innovation capability to support new technologies and new analytical techniques.</i></p> <p><i>All innovation demands can be executed based with existing resources.</i></p> <p><i>Impact of innovation capability is often evaluated against fully well-defined metrics to demonstrate impact on cost management.</i></p> <p><i>All staff and stakeholders provide input into the process.</i></p>
1. Process	<i>No process to develop new capabilities.</i>	<p>Establish proposal process. (2 months)</p> <p>Establish Internal Review Process. (3 months)</p>	<p>Establish a stakeholder feedback process. (6 months)</p> <p>Establish an accessible and routinely vetted priority list. (1 month)</p>	<p>Establish framework and pilot the evaluation of innovation's PPBE and Acquisition impacts. (1-2 years)</p> <p>Conduct and utilize the results of the routine stakeholder feedback process. (18 months)</p> <p>Establish fora for sharing new capabilities with other analysts and leadership. (0-2 years)</p> <p>Develop capability to receive requests from programs and sites. (1 year)</p>	<p>Evaluation process includes assessing each capability for PPBE and Acquisition impacts. (5 years)</p> <p>All programs and sites submit their requests for new capabilities. (5 years)</p>
2. New Capabilities	<i>No ability to develop new capabilities.</i>	<p>Establish a capability to perform special studies with a dedicated team. (3 months)</p>	<p>Document all modeling capabilities in a single index. (6 months)</p>	<p>Establish a process to collect and track the addition of new capabilities to meet leadership demands. (1 year)</p> <p>Papers are published on each new capability in professional journals or conference proceedings. (1-2 years)</p>	<p>The NSE's innovation community is the primary forum for the NSE and DOE developing new capabilities and getting insight into solving problems. (10 years)</p> <p>NNSA publishes its own journal of cost estimating and analysis. (10 years)</p>
3. Culture	<i>No innovation culture exists.</i>	<p>Enterprise Modeling and Policy staff little to no time learning new methods or exploring new capabilities. (2 months)</p>	<p>Enterprise Modeling and Policy staff all spend >10% of time learning new methods or exploring new capabilities. (2 months)</p>	<p>Models and tools developed in one domain are frequently incorporated into others. (1 year)</p> <p>All PA&E staff spend >10% of time learning new methods or exploring new capabilities. (4 months)</p>	<p>M&O and HQ staff routinely collaborate on multiple analytical projects at a time. (5 years)</p>

Category #3 - Models and Tools

	Novice	Beginner	Competent	Proficient	Fully Mature
	0.0	1.0	2.0	3.0	4.0
Models and Tools	No standard analytical models and tools.	Minimal agency-specific models and tools, with most sourced from external organizations.	Limited agency-specific models and tools for a limited number of program or estimate types. Limited description of models and tools in policy or guidance. Limited or partial validation by internal NNSA elements.	Most models and tools are agency-specific and exist for most program or estimate types. Most models and tools are well-defined for most processes in the product life-cycle. Most models and tools are validated by NSE analytical community, with limited review from external stakeholders.	All models and tools are agency-specific and exist for all program or estimate types. All models and tools are well-defined for every milestone in the product life-cycle. Most models and tools are recommended in guidance. All are validated by NSE analytical community, with routine and full review from external stakeholders.
1. Process	No framework to verify and validate models and tools.	Complete an initial needs assessment and gap analysis with customer and stakeholder input. (1-2 years)	Develop framework for verification & validation of new models and tools (1 year). Pilot the verification & validation framework on limited enterprise models and tools. (3-6 months per model/tool)	Implement verification & validation framework on most enterprise models and tools. (2 years) Periodic reassessment of needs and gap analysis with customer and stakeholder input. (Every 2-3 years)	Implement verification & validation framework on all enterprise models and tools. (3-5 years) Most enterprise models and tools are recommended in guidance. (4-5 years) Annual reassessment of needs and gap analysis with customer and stakeholder input. (Every year)
2a. Weapons Acquisitions 2b. Capital Acquisitions 2c. PPBE	No standard agency-specific models and tools.	2a. Minimal weapons specific models and tools, with a focus on early-stage cost estimates (i.e. pre Phase 1 or 6.1) used in long range strategic planning. 2b. Minimal capital specific models and tools, with a focus on early-stage cost estimates (i.e. pre CD-0) used in long range strategic planning. 2c. Minimal PPBE models and tools, with a focus on executability and affordability.	2a. Limited weapons specific models and tools, with focus area on Phase 1 and 6.1 inputs. (2 years) 2b. Limited capital specific models and tools, with a focus on analysis of alternatives, estimate benchmarking, and root cause analyses methods. (1 year) 2c. Limited PPBE models and tools, with a focus on portfolio analysis and resource allocation. (2 years)	2a. Mostly developed suite of validated weapons program tools, with a focus on Phase 2 and 6.2 and beyond (e.g. WDCR, BCR, etc). (3 years) 2b. Mostly developed suite of validated capital project tools, including minor construction, process equipment, and major items of equipment. (2 years) 2c. Mostly developed suite of validated PPBE tools, and most are recommended in guidance. (3 years)	2a. Full suite of validated weapons program tools for the entire lifecycle (acquisition and sustainment) including at the component level, and all are required in guidance. (5 years) 2b. Full suite of validated capital project tools at both the project and sufficient WBS level, and all are recommended in guidance. (4-6 years) 2c. Full suite of validated PPBE tools, and all are recommended in guidance. (6 years)

Category #4 - Policy and Guidance

	Novice	Beginner	Competent	Proficient	Fully Mature
	0.0	1.0	2.0	3.0	4.0
Policy and Guidance	<i>No documented policy or guidance.</i>	<i>Minimal agency-specific policy and guidance, with most sourced from external organizations.</i> <i>Minimal documentation of requirements, applicability, roles, responsibilities, deliverables, and key methods/procedures.</i>	<i>Limited policy and guidance defining organizational roles, responsibilities, and milestone deliverables.</i> <i>Limited documentation for methods/procedures (e.g., standard WBS, escalation, data collection, cost reporting).</i>	<i>Policy and guidance define <u>most</u> organizational roles, responsibilities, and milestone deliverables.</i> <i><u>Most</u> methods/procedures are well documented for acquisition type and milestone (e.g., specific methods and models used for a Phase 6.1/CD-0 versus BCR/CD-2, handling risk and uncertainty, performing sensitivity analyses).</i> <i><u>Limited</u> integration of acquisition and financial management practices.</i>	<i>Policy and guidance define <u>all</u> organizational roles, responsibilities, and milestone deliverables.</i> <i><u>All</u> methods/procedures are well-documented for each acquisition type and milestone.</i> <i><u>Fully</u> integrated acquisition and financial management practices.</i>
1. Policy					
1a. Weapons Acquisitions 1b. Capital Acquisitions 1c. PPBE	<i>No documented policy for weapons, capital, or PPBE processes.</i>	<i>Minimal agency-specific policy, with most sourced from external organizations.</i>	<i>Limited policy and guidance defining organizational roles, responsibilities, and milestone deliverables.</i>	<i>Policy defines <u>most</u> organizational roles, responsibilities, and milestone deliverables (i.e. Phase 6.X, DOE O 413.3B, NAP 130.1, etc).</i>	1b. Establish requirement for all acquisition estimates to include a quantitative risk and uncertainty analysis (e.g. s-curve based on project's risk register). (1 yr) 1c. Update NNSA policy (NAP 130.1B) to reflect newly approved account integrator responsibilities. (6 mos)
2. Guidance					
2a. Weapons Acquisitions 2b. Capital Acquisitions 2c. PPBE 2d. Financial Integration	<i>No documented guidance for weapons, capital, PPBE, or financial integration processes.</i>	<i>Minimal agency-specific guidance, with most sourced from external organizations.</i>	2a. <i>[Completed] Published technical paper on Major Modernization Model (MMM), as well as specific guidance for each major milestone estimate (e.g. WDCR, BCR, etc).</i> 2b. Publish and implement a standard WBS (2-3 years) and closeout report guidance (6 months). 2c. Publish a guide detailing at least one part of PPBE process (e.g. Programming, etc) (1 yr).	2a. Develop milestone specific methods/procedures for weapons escalation (1 yr), high-level SCURA guide (1 yr), and PCE/ICE reconciliation process (1-2 yrs). 2b. Develop and document milestone specific methods/procedures including PCE/ICE reconciliation process (1-2 yrs) and high-level methods for estimating risk & uncertainty (1-2 yrs). 2c. Publish a guide detailing most of the PPBE processes (3 of out of 4 of the PPBE steps) (1-2 yrs). 2d. Implement integrated WBS and data collection to track financial and project data (1-2 years).	2a. Develop milestone specific methods/procedures including a guide for handling risk & uncertainty (1-2 yrs). 2b. Develop all remaining milestone specific methods/procedures including a detailed guide for handling risk & uncertainty (1-2 yrs). 2c. Publish a guide detailing all PPBE processes. (2 yrs). 2d. Regularly update models based on historic estimate accuracy, detailed labor/material splits, site cost model impacts, etc (2-4 years).
3. Cost Management Initiative (0)	<i>No cost management initiative exists.</i>	<i>Minimal establishment of a cost management initiative modeled after DoD's "Better Buying Power", including high-level focus areas. (6 mos)</i>	Establish responsibilities, actions, and timelines for each focus area. (1 yr) Implement initial near-term actions (e.g. affordability caps). (1 yr)	Track progress and conduct lessons learned. Update strategy, and if appropriate issue a new "2.0" initiative. (1 yr) Implement secondary and tertiary actions. (2-3 yrs)	Continue tracking progress and lessons learned. Update strategy, and if appropriate issue a new "3.0" initiative. (2-3 yrs)

Category #5 - Knowledge and Data Management

IVER.

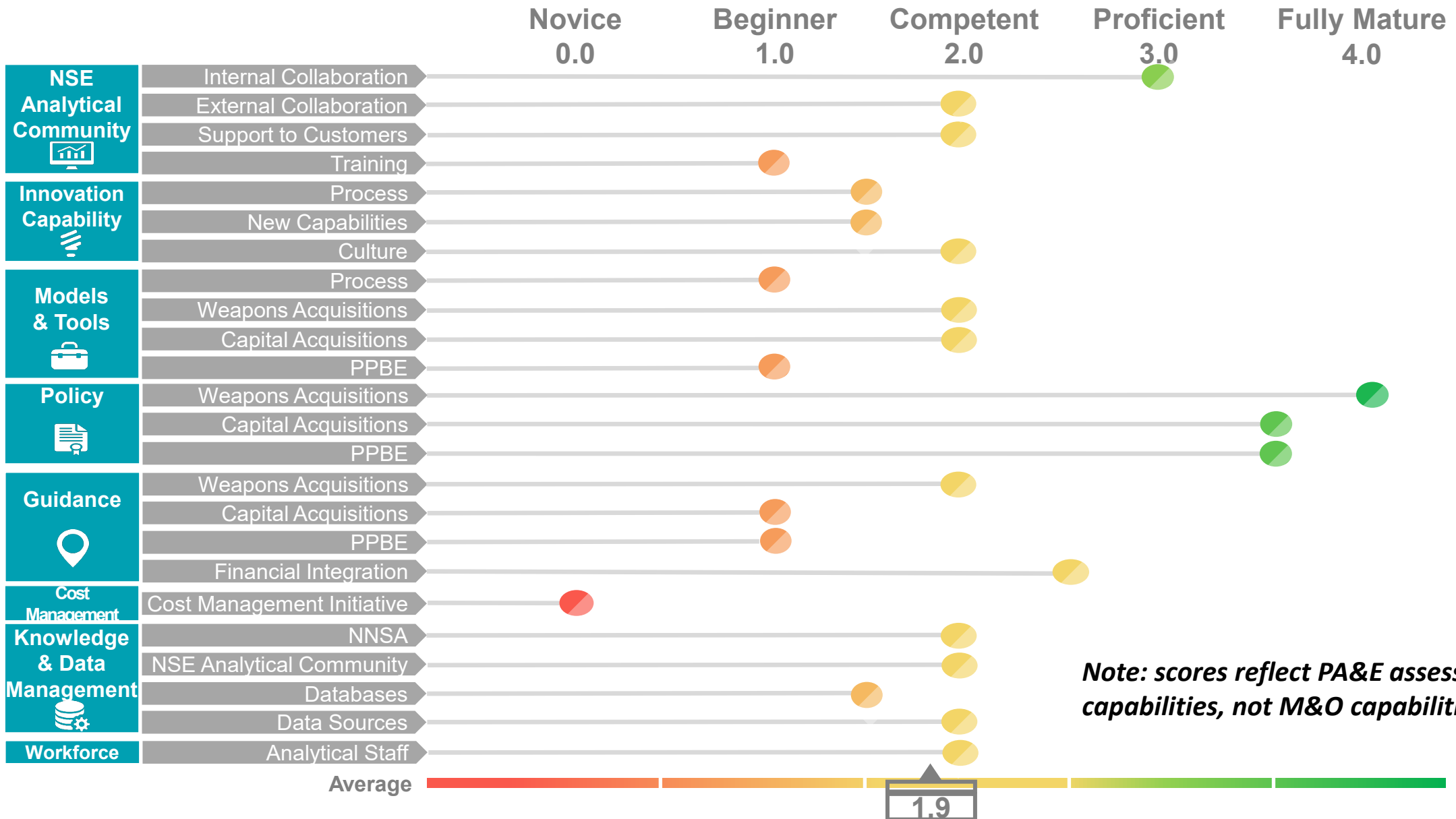
	Novice	Beginner	Competent	Proficient	Fully Mature
	0.0	1.0	2.0	3.0	4.0
Knowledge and Data Management	<i>No</i> implemented knowledge management or data management processes.	<p><u>Minimal</u> structure or templates of final products or supporting analyses.</p> <p><u>Minimal</u> use of a decentralized collaboration sites across the NSE analytical community.</p> <p><u>Minimal</u> processes exist for collecting, storing, and publishing data.</p>	<p><u>Limited</u> sharing of final products and supporting analysis on a centralized shared network with a defined folder structure.</p> <p><u>Limited</u> use of a centralized collaboration site across the NSE analytical community.</p> <p><u>Limited</u> processes exist for collecting, storing, and publishing data for some specific data sets.</p>	<p><u>Most</u> final products and files hosted on well-organized and defined structure on a centralized collaboration site with appropriate external permissions for access.</p> <p><u>Most</u> of the NSE analytical community uses a centralized collaboration site.</p> <p>Well-developed processes exist for collecting, storing, and publishing data for <u>most</u> data sets.</p>	<p><u>Fully</u> functional knowledge management structure for final products and supporting analysis with appropriate permissions for access.</p> <p><u>All</u> of NSE analytical community uses a centralized collaboration site.</p> <p>Well-developed processes exist for collecting, storing, and publishing data for <u>all</u> data sets</p>
1. Knowledge Management	<i>No</i> implemented knowledge management process.	<p>1a. <u>Minimal</u> structure or templates across NNSA of similar final products, with a focus on completing an initial requirements analysis. (1 year)</p> <p>1b. <u>Minimal</u> use of collaboration sites established for the NSE analytical community, with a focus on completing an initial tool requirements analysis.</p>	<p>1a. <u>Limited</u> implementation of NNSA specific standard structure and templates in final product documentation. (1 year)</p> <p>1b. <u>Limited</u> use of centralized collaboration site by NSE analytical community sub-teams. Primarily federal teams populating the site.</p>	<p>1a. <u>Mostly</u> implemented NNSA specific standard structure and templates in final product documentation, based on a detailed style guide including folder structures, filename conventions, and permissions. (2-3 years)</p> <p>1b. <u>Most</u> NSE analytical community sub-teams routinely use a centralized collaboration site. <u>Most</u> NSE teams would populate the site. (1 year)</p>	<p>1a. <u>Fully</u> standardized and implemented NNSA specific structure and templates for all products on both the low and high sides. (3-5 years)</p> <p>1b. All NSE analytical sub-teams routinely use a centralized collaboration site and populate the site. (3 years)</p>
2. Data Management	<i>No</i> established data management process.	<p><u>Minimally</u> established data management process, with a focus on completing an initial database needs assessment and gap analysis of data sources. (1 year)</p>	<p>2a. <u>Limited</u> database capabilities, with focus on assessing new database needs, user requirements, and ability to routinely update with new data. (2 years)</p> <p>2b. <u>Limited</u> data availability to NSE analytical community in centralized data sources. (2 years)</p> <p><u>Limited</u> ability to identify new data sources and types based on evolving requirements.</p>	<p>2a. <u>Mostly</u> developed database capabilities, including process for identifying, collecting, normalizing, validating, and storing new data sources and routinely updating existing databases. (2-5 years)</p> <p><u>Most</u> collected data is validated and incorporated into a centralized database. (2-5 years)</p> <p>2b. <u>Most</u> data available to NSE analytical community members in centralized data sources. (2-5 years)</p> <p><u>Mostly</u> developed ability to routinely identify new data sources based on evolving requirements. (2-5 years)</p>	<p>2a. <u>Fully</u> developed database capabilities, including all aspects of the process. (5+ years)</p> <p><u>All</u> relevant data is centralized and made available to all NSE analytical community members. (5+ years)</p> <p>2b. <u>All</u> data sets are consistently updated, validated. (5+ years)</p> <p><u>Fully</u> structured process to routinely identify new data sources based on evolving requirements. (5+ years)</p>

Category #6 - Workforce

	Novice	Beginner	Competent	Proficient	Fully Mature
	0.0	1.0	2.0	3.0	4.0
Workforce	<i>No dedicated analytical staff.</i>	<i>Minimal number of staff or experience mix (e.g. too few senior analysts) to support mission requirements.</i> <i>No ability to expand or surge to meet unanticipated requirements.</i>	<i>Limited number of staff or experience mix to support mission requirements.</i> <i>No ability to expand or surge to meet unanticipated requirements.</i>	<i>Sufficient number of staff and experience mix to support mission requirements.</i> <i>Limited ability to expand or surge to meet unanticipated requirements.</i>	<i>Sufficient number of staff and experience mix to support mission requirements.</i> <i>Fully able to expand or surge to meet unanticipated requirements.</i>

- Background and Roadmap Objectives
- Summary Categories
- Detailed Categories
- Metrics for Scoring & Tracking
- Next Steps + Opportunities for Collaboration

Metrics Scoring



Note: scores reflect PA&E assessment of federal capabilities, not M&O capabilities

- Background and Roadmap Objectives
- Summary Categories
- Detailed Categories
- Metrics for Scoring & Tracking
- Next Steps + Opportunities for Collaboration

Next Steps + Opportunities for Collaboration

INNOVATE. COLLABORATE. DELIVER.

1. **Weapons cost estimating benchmark models (POC: Charlie Loelius)**
 - New schedule estimating model to improve future LEP planning
 - New component level models for production estimating
2. **Training (POC: Julie Anderson)**
 - Establish internal training program for PA&E
 - Establish CEAG Training Working Group (TWG) to perform NSE gap analysis and improvement plan
3. **Capital cost estimating (POC: Charlie Loelius)**
 - Pilot implementation of standard cost guidance to improve estimating quality
 - Develop common capital WBS and standard closeout guidance
4. **Knowledge and data management (POC: Jeff Beck)**
 - Making capital cost data accessible to improve future site estimates
 - Develop for sites a benchmark dashboard of similar past executed projects
5. **Workforce (POC: Cash Fitzpatrick)**
 - Continue hiring and get to full capacity
 - Provide additional analytical support to program & site teams (e.g. improved guidance, reviews, etc)

Questions?

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