Defense Acquisition University

DoD Instruction 5000.02
dated 8 December 2008

Operation of the Defense Acquisition System
Statutory and Regulatory Changes

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April 2009

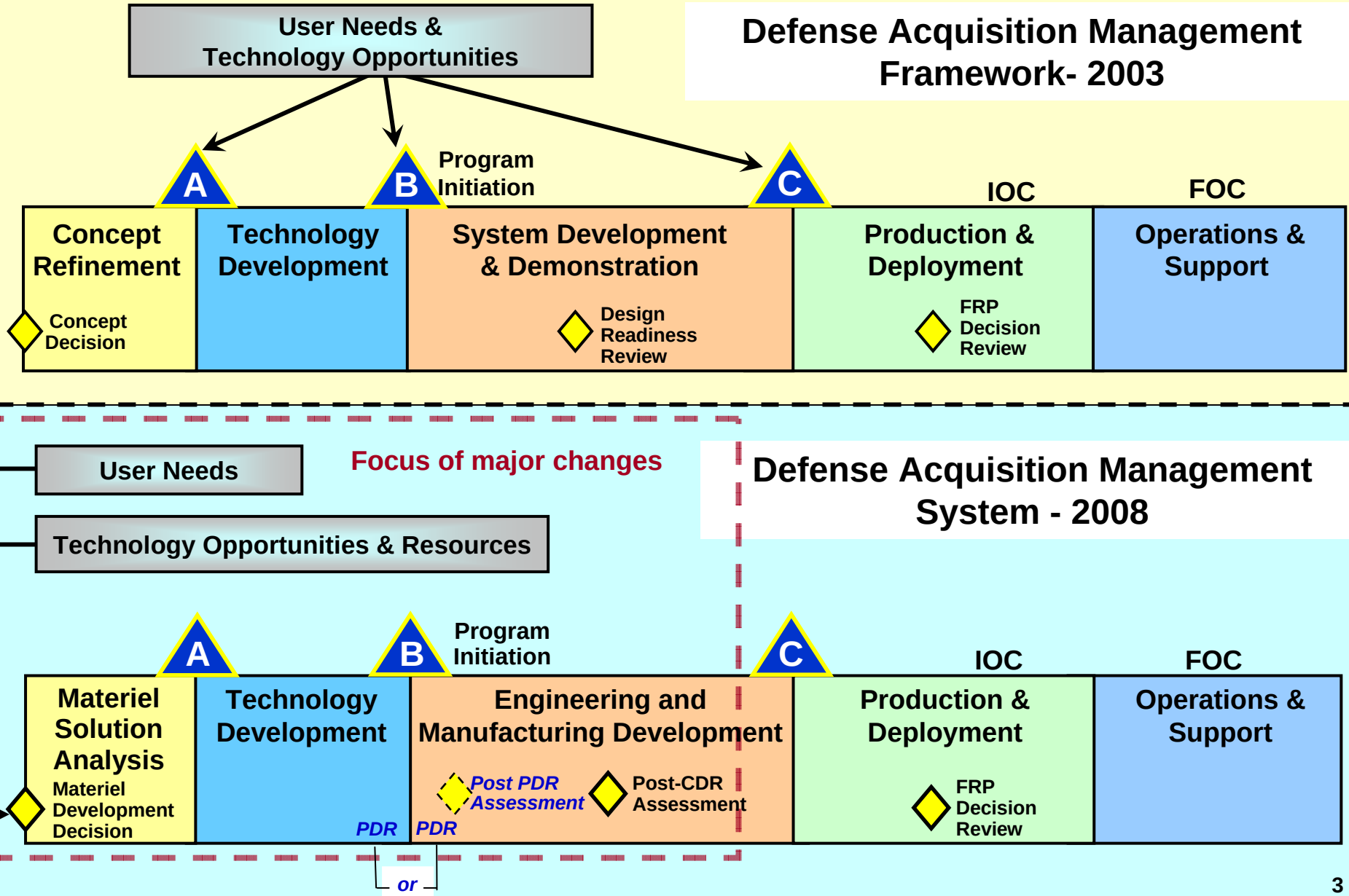
Changes to the May 2003 DoDI 5000.2

- **Policy Flowing from Numerous New/Revised sections of Public Law since 2003 (some with Multiple Requirements)**
- **Approved Policy Appearing in over 25 Policy Memos and DoD Responses to the GAO, IG, and Congress**
- **Reference to 10 Updated or Newly Issued DoD Publications**
- **Consideration of Over 700 Defense Acquisition Policy Working Group (DAPWG) Comments**

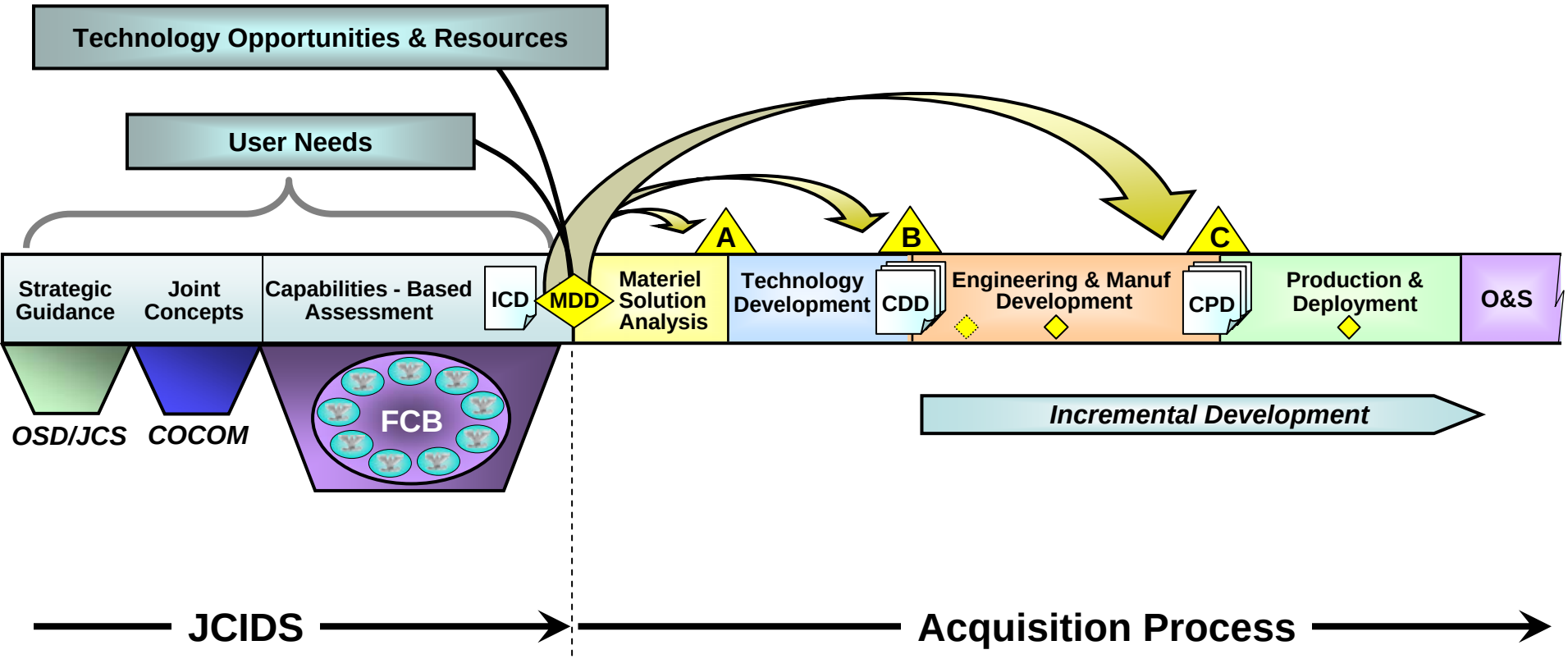
Motivations for the Revision of DoDI 5000.2

- **Most potential programs were proceeding to Milestone B without a predecessor review to assess the capability need and direct of analysis of alternatives**
- **Technical maturity not adequately demonstrated prior to program initiation**
- **Program cost, schedule, and performance inadequately informed by design considerations**
- **Requirements "creep" continuing to destabilize programs**
- **No formal and effective opportunity between Milestone B and Milestone C for MDA to assess progress, adjust/defer requirements or, consistent with statute, restructure the program**

Comparison of 2003 vs. 2008

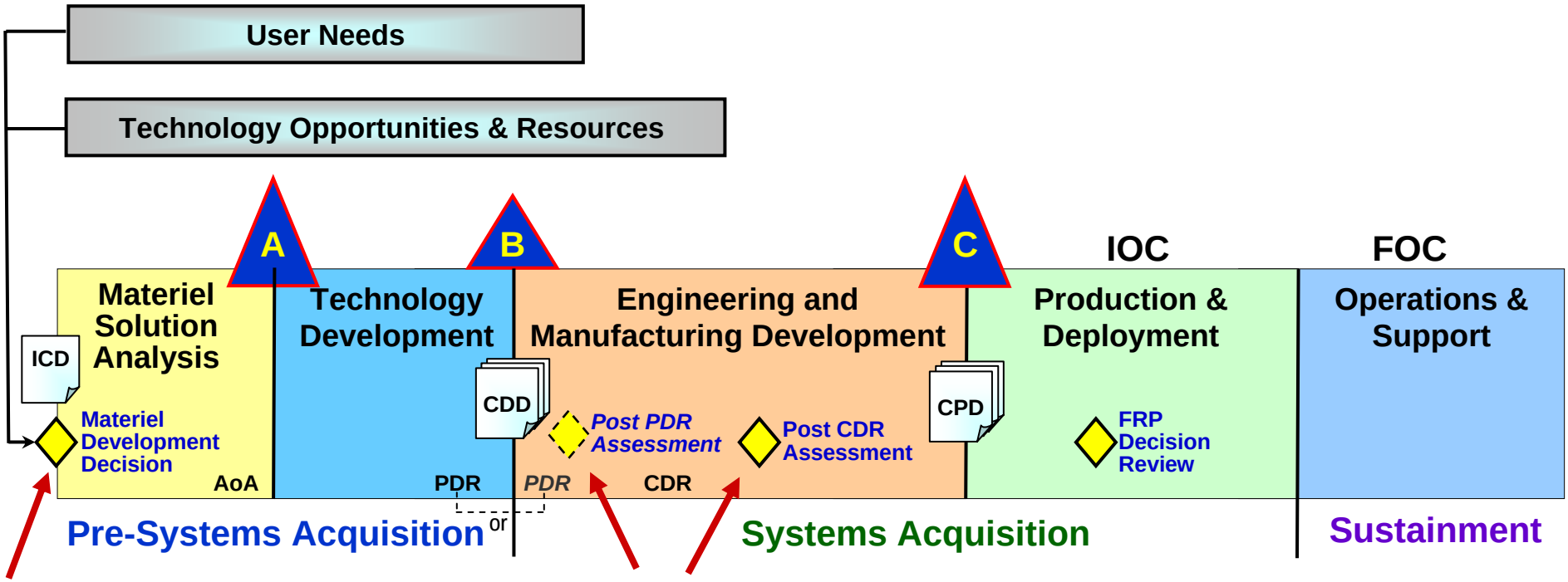


The Defense Acquisition Management System 2008



"Following the Materiel Development Decision (MDD), the MDA may authorize entry into the acquisition management system at any point consistent with phase-specific entrance criteria and statutory requirements."

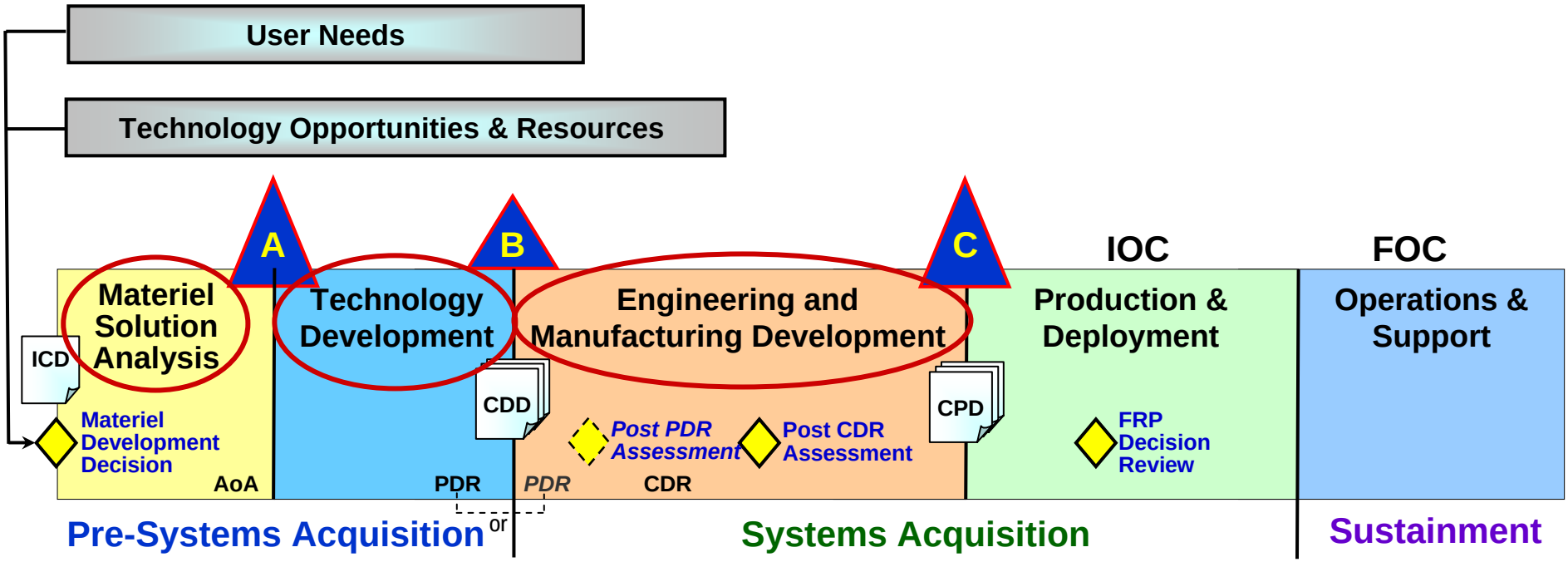
The Defense Acquisition Management System 2008



Changes to Decision Points

Old (2003)	New (2008)	Change from 2003
Concept Decision (CD)	Materiel Development Decision (MDD)	MDD required prior to entering the process at any point
N/A	*Post-PDR Assessment*	*MDA's assessment of PM's PDR Report (if PDR after MS B)*
Design Readiness Review DRR	Post-CDR Assessment	MDA's assessment of PM's CDR Report

The Defense Acquisition Management System 2008

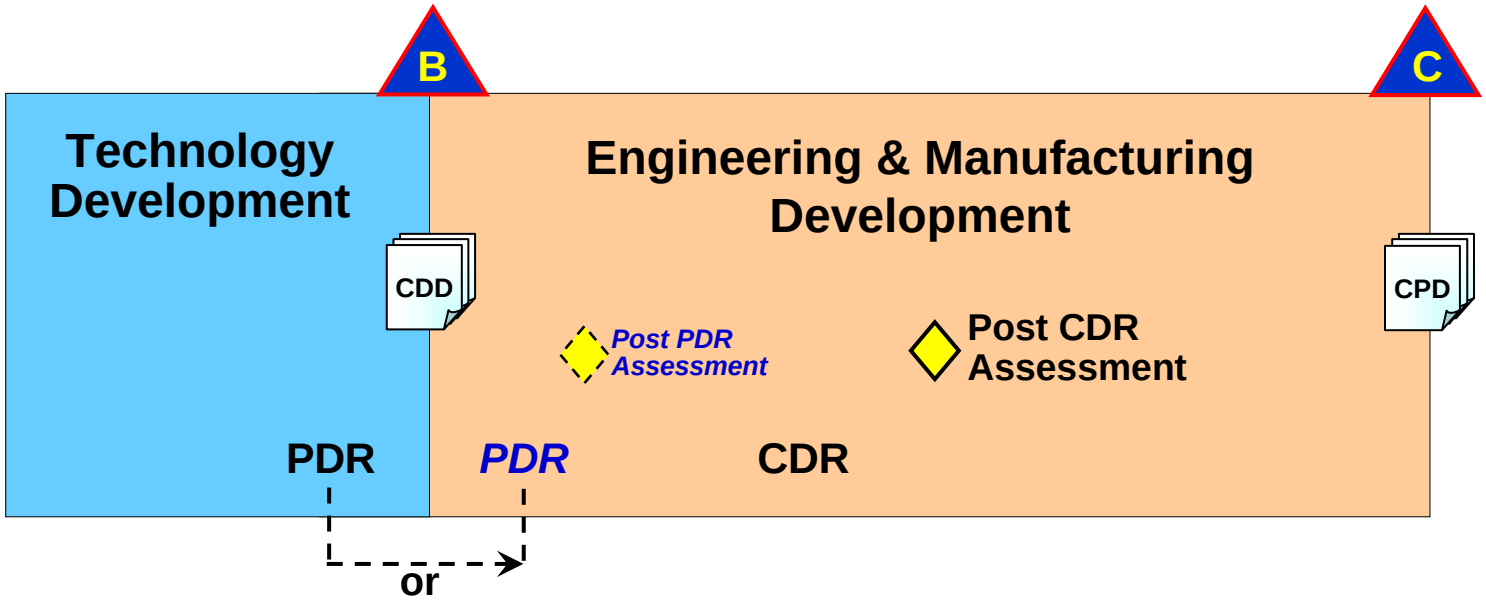


Changes to Phases

Old (2003)	New (2008)	Change from 2003
Concept Refinement (CR)	Materiel Solution Analysis	More robust AoA (result of changes to JCIDS)
Technology Development (TD)		Competitive prototyping
Systems Development & Demonstration (SDD)	Engineering & Manufacturing Development (EMD)	More robust system engineering

The Defense Acquisition Management System 2008

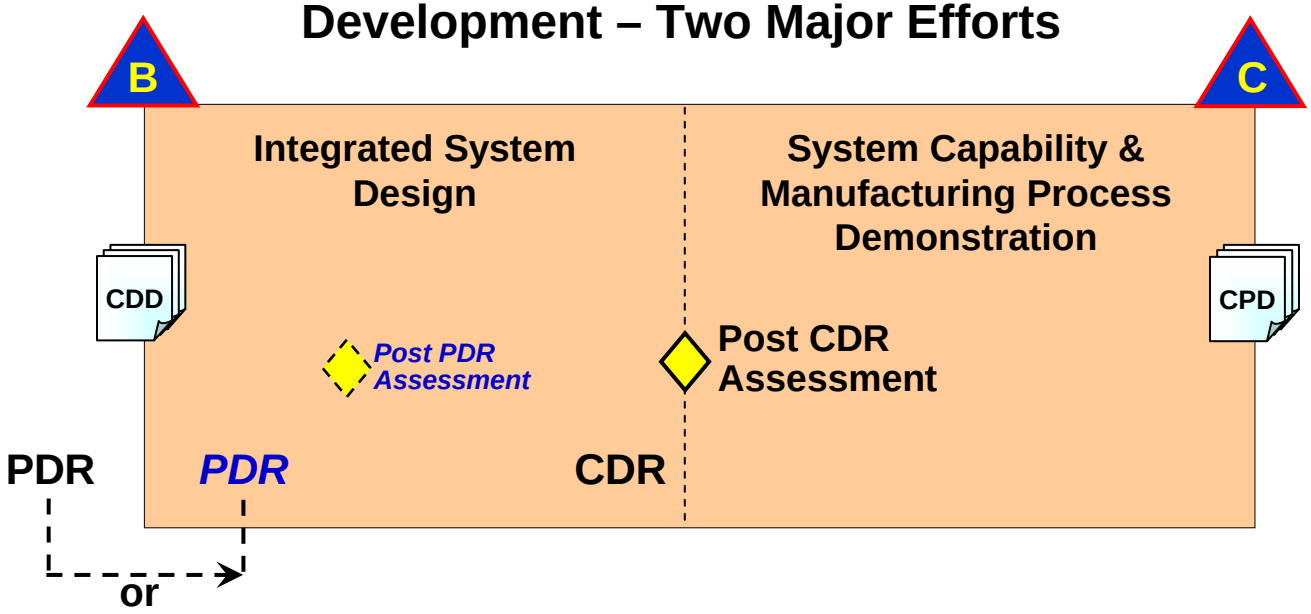
Preliminary Design Review



PDR Before Milestone B	PDR After Milestone B
• Planned for in Technology Development Strategy • PDR Report provided to MDA at MS B • Includes recommended requirements trades	• Planned for in Acquisition Strategy • PDR Report provided to MDA prior to Post PDR Assessment • Reflects requirements trades • At Post PDR Assessment, MDA considers PDR report; determines action(s) required to achieve APB objectives and issues ADM

The Defense Acquisition Management System 2008

Engineering & Manufacturing Development – Two Major Efforts

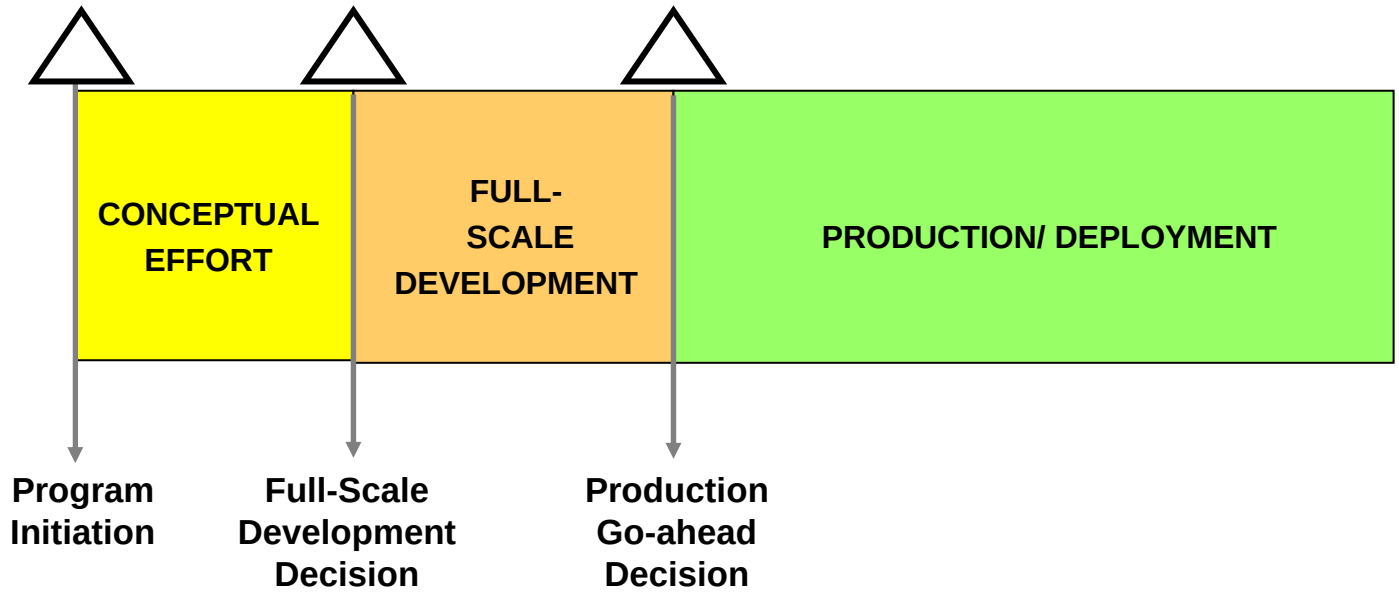


Old (2003)	New (2008)	Change from 2003
System Design	Integrated System Design	Establishment of Product Baseline for all Configuration Items
System Demonstration	System Capability & Manufacturing Process Demonstration	Manufacturing processes effectively demonstrated; production-representative article(s) demonstrated in intended environment; T&E assesses improvements to mission capability and operational support based on user needs.

Now for the Acquisition Management System

We will “walk through” the process and highlight major changes

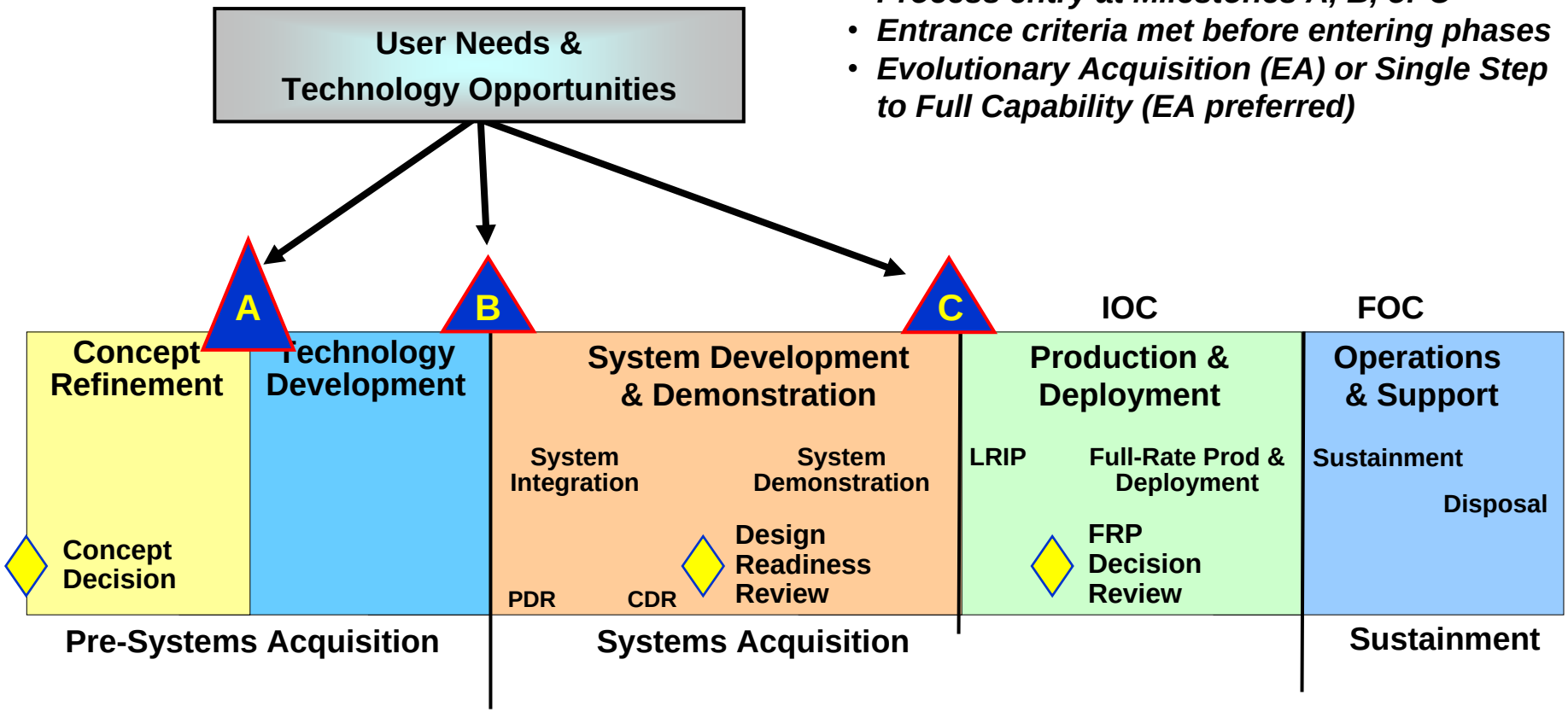
First Acquisition Framework in 1971



- **Decision points: 3**
- **Phases: 3**
- **Milestone documents: 1 (Decision Coordinating Paper (DCP))**

The Defense Acquisition Framework 2003

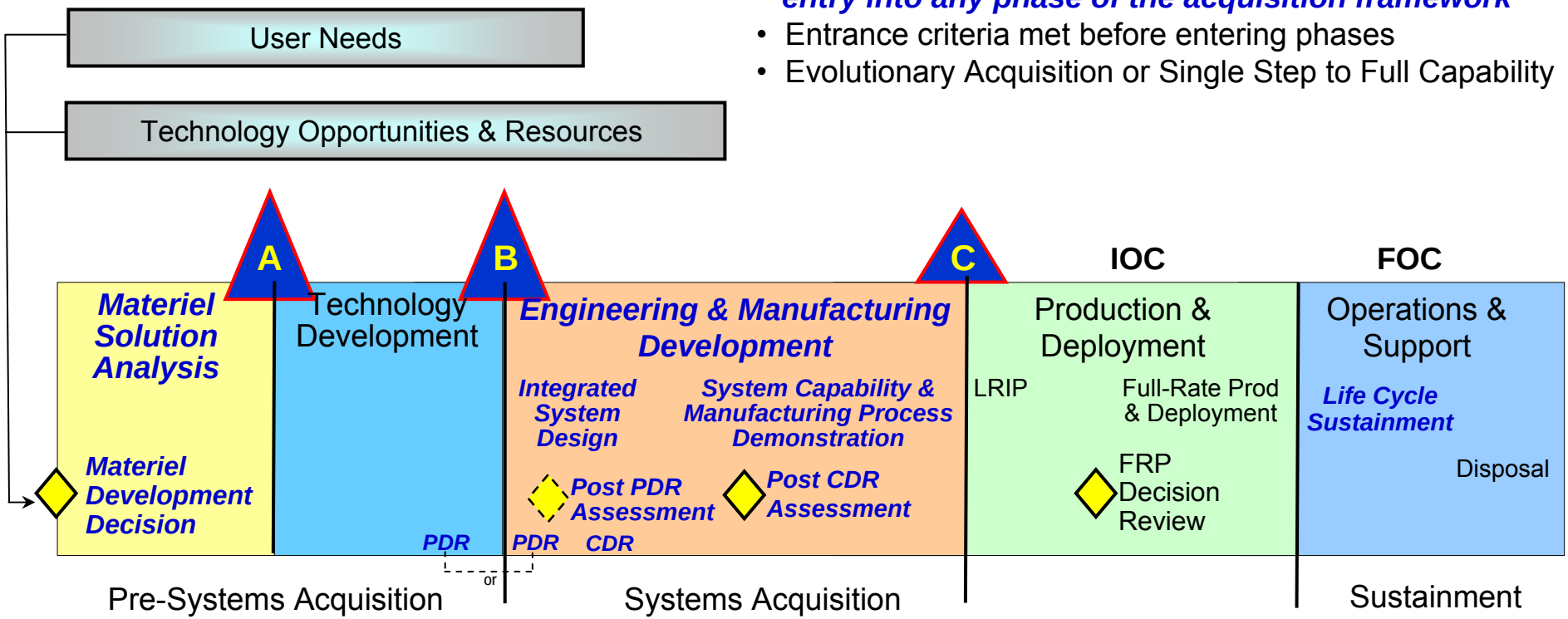
- *Process entry at Milestones A, B, or C*
- *Entrance criteria met before entering phases*
- *Evolutionary Acquisition (EA) or Single Step to Full Capability (EA preferred)*



- **Decision points: 6**
- **Phases: 5**
- **Milestone documents: 30+**

The Defense Acquisition Management System 2008

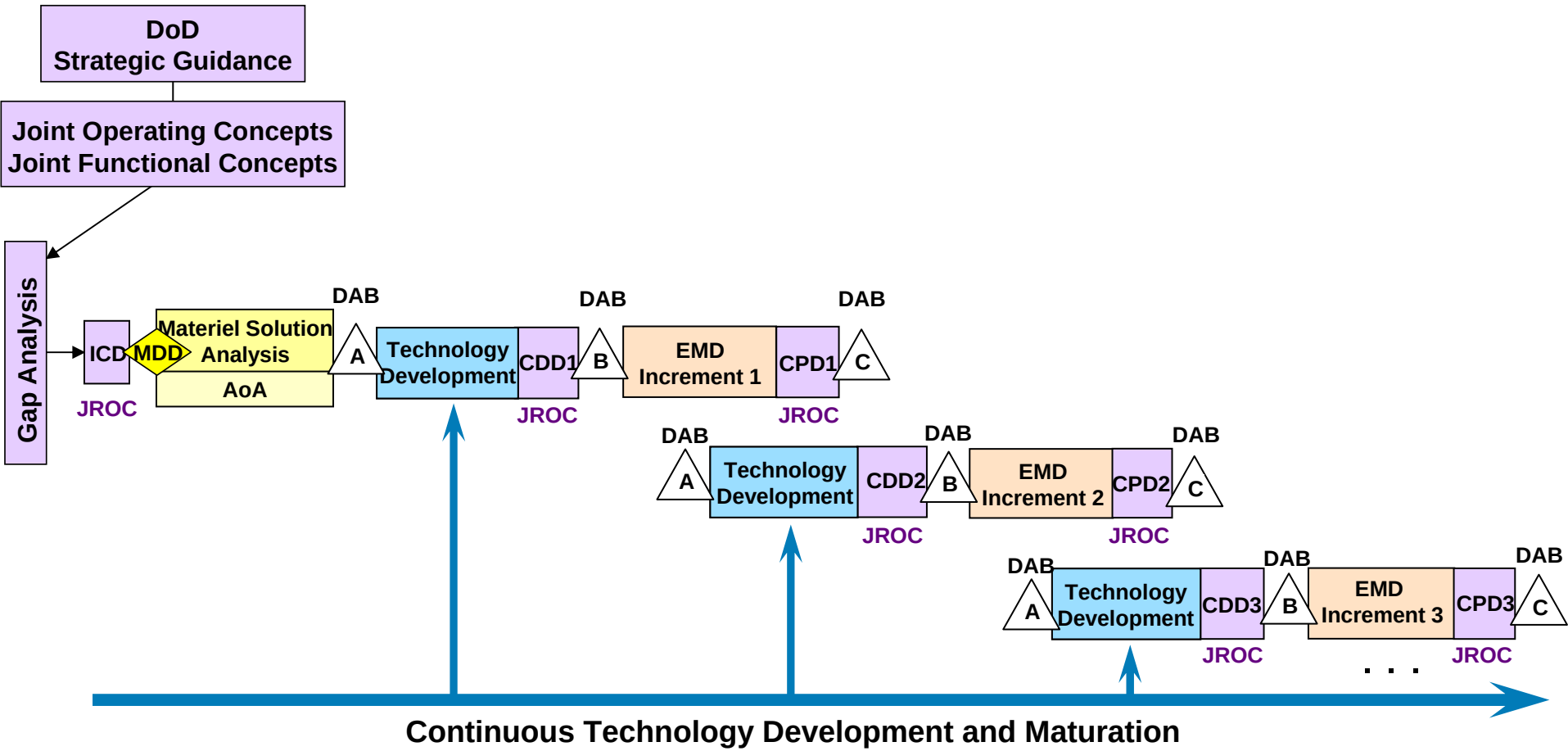
- ***The Materiel Development Decision precedes entry into any phase of the acquisition framework***
- Entrance criteria met before entering phases
- Evolutionary Acquisition or Single Step to Full Capability



- Decision points: 6
- Phases: 5
- Milestone documents: ***40+***

New in *bold blue italics*

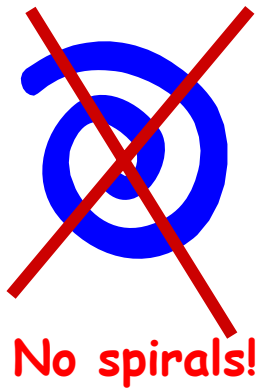
Evolutionary Approach



Evolutionary Acquisition

From two processes… → **To one process…**

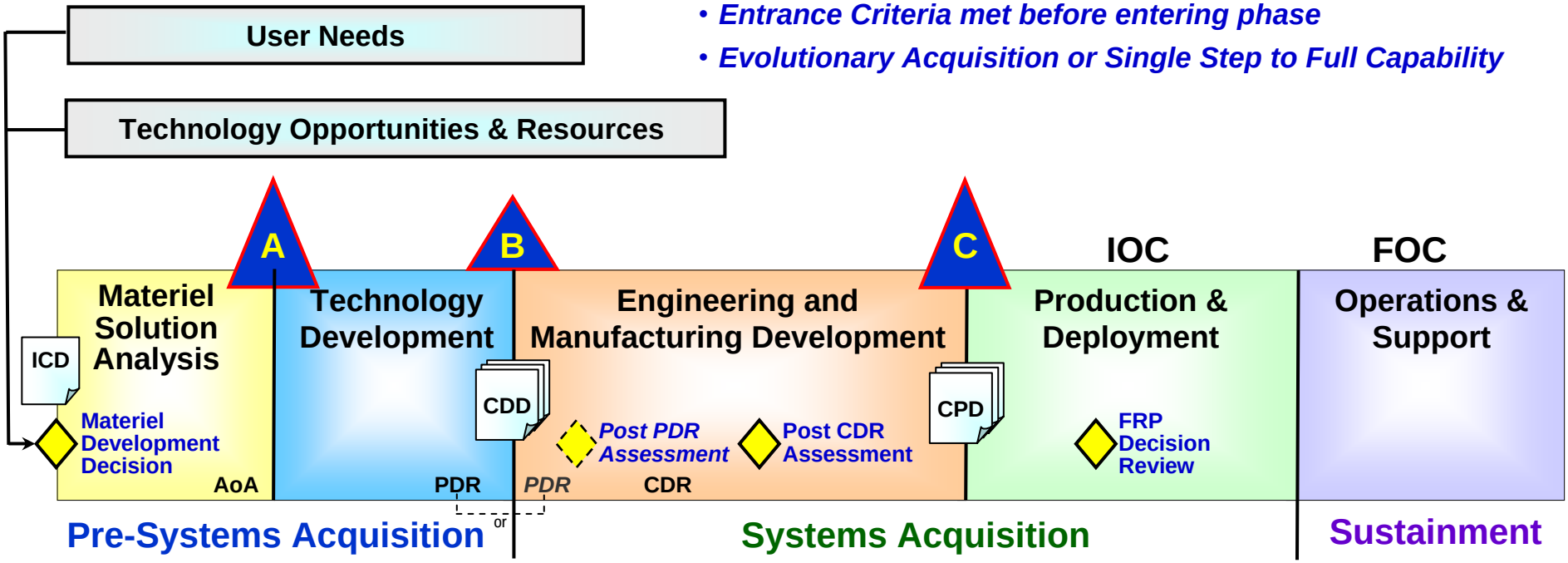
- Incremental Development: End-state is known; requirements met over time in several increments
- Spiral Development: End-state is not known; requirements for increments dependent upon technology maturation and user feedback.



- Capability delivered in increments, recognizing up front need for future capability improvements
- Each increment:
  - depends on mature technology
  - is a militarily useful and supportable operational capability
  - Successive Technology Development Phases may be needed to mature technology for multiple increments

The Defense Acquisition Management System

- *The Materiel Development Decision precedes entry into any phase of the acquisition management system*
- *Entrance Criteria met before entering phase*
- *Evolutionary Acquisition or Single Step to Full Capability*



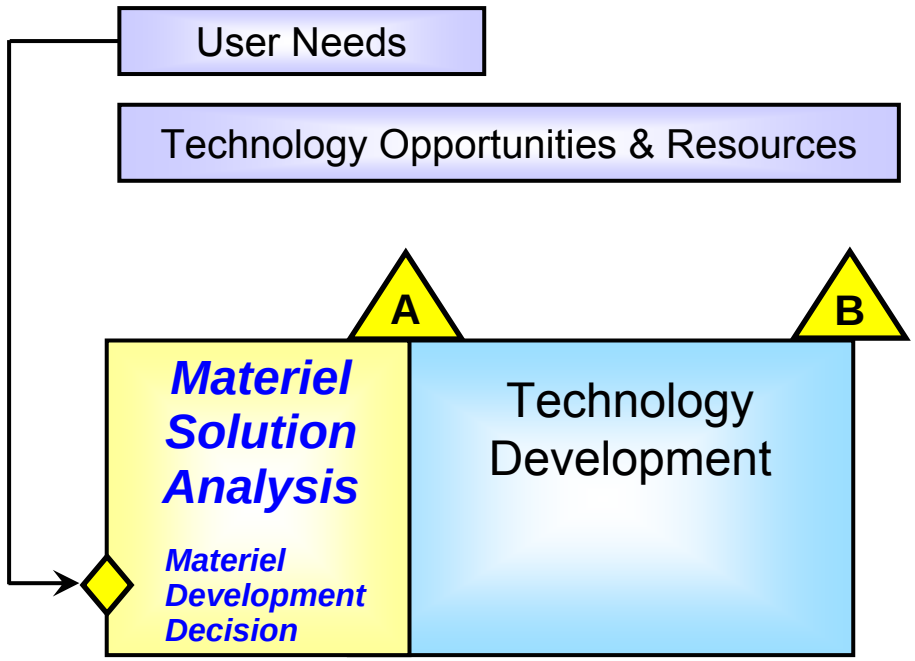
Initial Capabilities Document (ICD) | **Capability Development Document (CDD)** | **Capability Production Document (CPD)**

Relationship to JCIDS

PDR: Preliminary Design Review
CDR: Critical Design Review
FRP: Full Rate Production

IOC: Initial Operational Capability
FOC: Full Operational Capability

Pre-Systems Acquisition



User Need

- **JCIDS Capabilities-Based Assessment (CBA)**
- **Initial Capabilities Document (ICD)**

Technology Opportunities

- ***All sources foreign & domestic***
- ***Small Business Innovation Research (SBIR) Program***
- ***Technology Projects*: *JCTDs, Coalition Warfare Program, Defense Acquisition Challenge Program, etc…***

Materiel Development Decision (MDD)

MDA:

- ***Approves AoA Study Guidance***
- ***Determines acquisition phase of entry***
- ***Identifies initial review milestone***
- Designates Lead DoD Component
- Approves Acquisition Decision Memorandum(ADM)

Regulatory Requirements

- Initial Capabilities Document (ICD)
- ***AoA Study Guidance (AoA Plan due immediately following the MDD)***

New terms/requirements in *bold blue italics*

Materiel Solution Analysis

Purpose: ***Assess potential materiel solutions***

- **Enter:** Approved ICD and study guidance for conducting AoA.
- **Activities:** Conduct AoA, develop Technology Development Strategy (TDS) & ***draft CDD***
- **Guided by:** ICD and AoA Plan
- **Exit:** ***AoA completed, materiel solution options for the capability need identified in ICD have been recommended by lead Component conducting AoA***, and phase-specific entrance criteria for the initial review milestone have been satisfied

New terms/requirements in *bold blue italics*

MDA Certification
Prior to Milestone A Approval

Certification Required by 10 USC 2366a:

- *The program fulfills an approved initial capabilities document;*
- *The program is being executed by an entity with a relevant core competency as identified by the Secretary of Defense under section 118b of Title 10, U.S. Code;* ***[see note]***
- *A cost estimate for the program has been submitted and that the level of resources required to develop and procure the program is consistent with the priority level assigned by the JROC*

[and if the program duplicates a capability already provided by an existing system:

- *The duplication of capability provided by this program and the existing system is necessary and appropriate*]

Note: during the period prior to the completion of the first roles and missions review required by section 118b of title 10, United States Code, the certification required by that section shall be that the system is being executed by an entity with a relevant core competency as identified by the Secretary of Defense. (NDAA FY 2009)

Milestone A

MDA approves:

- ***Materiel solution***
- Technology Development Strategy (TDS)
- Exit criteria for next phase
- ***Milestone A Certification (10 USC 2366a)***
- Acquisition Decision Memorandum (ADM)

Statutory & Regulatory Requirements

•Acquisition Decision Memorandum (ADM) •Analysis of Alternatives (AoA) •Acquisition Information Assurance Strategy •Clinger-Cohen Act (CCA) Compliance •CIO Confirmation of CCA Compliance ***(for MDAPs & MAIS, DoD CIO confirms)*** •Consideration of Technology Issues ***•Component Cost Estimate (CCE)*** •Economic Analysis (MAIS) •Exit Criteria	•Initial Capabilities Document (ICD) ***•Item Unique Identification (IUID) Implementation Plan*** ***•Life Cycle Signature Support Plan*** •Market Research ***•MDA Program Certification*** •Program Protection Plan (PPP) ***•Systems Engineering Plan (SEP)*** •Technology Development Strategy (TDS) •Test & Evaluation Strategy (TES)

New terms/requirements in *bold blue italics*

Technology Development

Purpose: Reduce Technology Risk**, determine *and mature* appropriate set of technologies to be integrated into a full system, *and to demonstrate Critical Technology Elements on Prototypes.***

Enter: MDA ***approved materiel solution*** and TDS**; *funding for TD phase activities***

Activities: ***Competitive prototyping; Develop RAM strategy; conduct Preliminary Design Review (PDR)***

Guided by: ICD & TDS ***and supported by SE planning***

Exit: Affordable increment of military-useful capability identified; technology demonstrated in relevant environment; manufacturing risks identified**;** system or increment ready for production within short time frame (normally less than 5 years ***for weapon systems*****)**

New terms/requirements in *bold blue italics*

MDA Certification
Prior to Milestone B Approval

Certification Required by 10 USC 2366b:

I have received the program business case analysis for the (name of program) and certify on the basis of the analysis that:

- The program is affordable when considering the ability of the Department of Defense to accomplish the program's mission using alternative systems;
- The program is affordable when considering the per unit cost and the total acquisition cost in the context of the total resources available during the period covered by the future-years defense program submitted during the fiscal year in which the certification is made;
- Reasonable cost and schedule estimates have been developed to execute the product development plan under the program; and
- Funding is available to execute the product development and production plan under the program, through the period covered by the future-years defense program submitted during the fiscal year in which the certification is made, consistent with the estimates above.

I further certify that:

- Appropriate market research has been conducted prior to technology development to reduce duplication of existing technology and products;
- The Department of Defense has completed an analysis of alternatives with respect to the program;
- The Joint Requirements Oversight Council has accomplished its duties with respect to the program pursuant to section 18l(b) of title 10, United States Code, including an analysis of the operational requirements for the program;
- The technology in the program has been demonstrated in a relevant environment;
- The program demonstrates a high likelihood of accomplishing its intended mission; and
- The program complies with all relevant policies, regulations, and directives of the Department of Defense

Milestone B

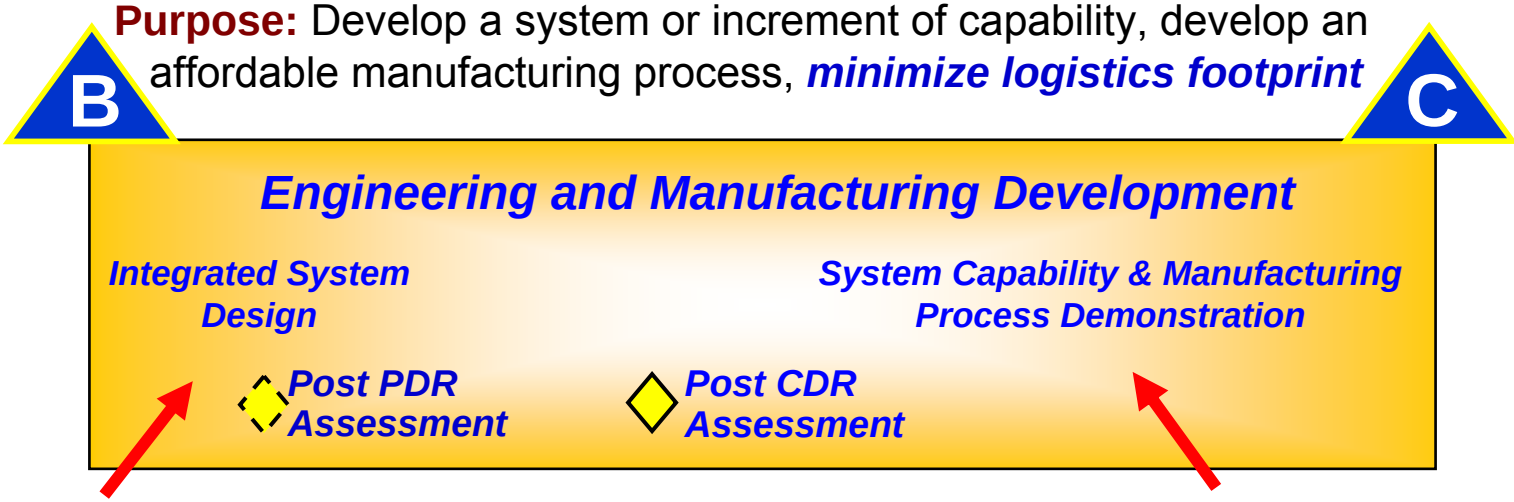
MDA approves:

- Program Initiation (for most programs)
- Entry into ***EMD***
- Acquisition Strategy
- Acquisition Program Baseline
- LRIP quantities
- Exit criteria for next phase
- ***Type of Contract***
- ***Milestone B Certification (10 USC 2366b)***
- ADM

New terms/requirements in *bold blue italics*

Engineering & Manufacturing Development

Purpose: Develop a system or increment of capability, develop an affordable manufacturing process, ***minimize logistics footprint***



- **Enter:** Mature Technology; Approved Requirements; Full Funding in FYDP
- **Activities:** ***Define System of System Functionality & Interfaces***, Complete Detailed Design, ***System-Level PDR (as needed)/CDR, Establish Product Baseline,***
- **Guided by:** **CDD,** ***Acq Strategy, SEP & TEMP***
- **Exit:** ***Complete System-Level CDR and Post-CDR Assessments by MDA***

- **Enter:** ***Post-CDR Assessment and Establishment of initial Product Baseline***
- **Activities:** Developmental Testing (DT) Assesses Progress Against Technical Parameters, and Operational Assessments (OA) Against CDD
- **Guided by:** **CDD,** ***Acq Strategy, SEP & TEMP***
- **Exit:** System Demonstrated in Intended Environment using ***production-representative articles; Manufacturing Processes Demonstrated*;** Meets Exit Criteria and MS C Entrance Requirements

New terms/requirements in *bold blue italics*

Milestone B: Statutory and Regulatory Requirements

All programs except where noted (see encl. 4, DoDI 500.02)

- Acquisition Decision Memorandum (ADM)
- Analysis of Alternatives (AoA) (update)
- Acquisition Strategy
- Affordability Assessment
- Acquisition Program Baseline
- Acquisition Information Assurance Strategy
- ***Alternate Live Fire T&E Plan***
- Benefit Analysis & Determination
- Capability Development Document (CDD)
- Clinger-Cohen Act (CCA) Compliance
- CIO Confirmation of CCA Compliance ***(for MDAPs & MAIS, DoD CIO confirms)***
- Consideration of Technology Issues (ACAT I & II)
- Competition Analysis
- ***Component Cost Estimate (CCE) (MAIS)***
- Cooperative Opportunities
- Core Logistics Analysis/Source of Repair Analysis
- Cost Analysis Requirements Description (CARD) (MDAP & MAIS)
- ***Corrosion Prevention Control Plan***
- ***Data Management Strategy (in acquisition strategy)***
- Economic Analysis (MAIS)
- Exit Criteria
- Initial Capabilities Document (ICD)
- Independent Cost Estimate (ACAT I)
- Independent Technology Readiness Assessment (TRA) (ACAT ID)
- Information Support Plan (ISP)
- Industrial Base Capabilities (MDAP)
- ***Item Unique Identification Impl Plan (SEP annex)***
- Live Fire T&E Waiver
- Life Cycle Sustainment Plan (LCSP)
- ***Life Cycle Signature Support Plan***
- LRIP Quantities (ACAT I & II)
- Manpower Estimate (MDAP)
- Market Research
- ***MDA Program Certification***
- ***MDA Assessment of compliance with Chemical, Biological, Radiological, and Nuclear Survivability Requirements (Not in Encl 4)***
- Net-Centric Data Strategy (in ISP)
- Operational Test Agency OT&E Report
- ***Preliminary Design Review Report***
- Program Protection Plan (PPP)
- Programmatic Environment, Safety, & Occupational Health Evaluation (PESHE)***Replaced System Sustainment Plan (MDAP)***
- Selected Acquisition Report (SAR) (MDAP)
- Spectrum Supportability Determination
- ***Systems Engineering Plan (SEP)***
- ***System Threat Assessment Report (STAR)(ACAT I)***
- System Threat Assessment (ACAT II)
- Technology Readiness Assessment (TRA)
- Test & Evaluation Master Plan (TEMP)

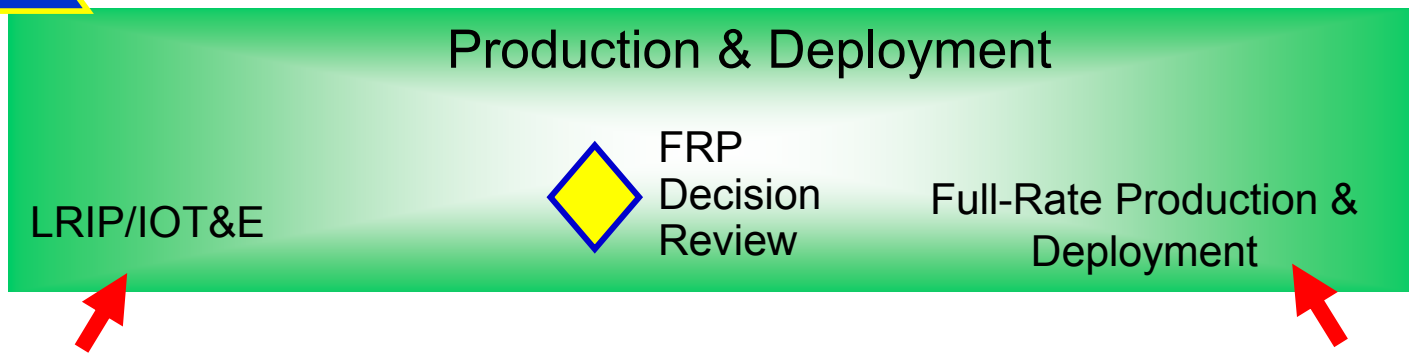
Milestone C

MDA Approves:

- Updated Acquisition Strategy and Acquisition Program Baseline
- Entry into LRIP for systems that require a LRIP, into production or procurement for systems that do not require LRIP, or into limited deployment for MAIS programs or software intensive systems with no production components
- Exit criteria for LRIP if appropriate
- Acquisition Decision Memorandum

Production & Deployment

Purpose: Achieve an operational Capability that satisfies mission needs



- **Enter:** Acceptable performance in DT & OA; mature software; no significant manufacturing risks; approved CPD; ***refined integrated architecture***; acceptable interoperability and operational supportability; demonstration of affordability; fully funded; phased for rapid deployment.
- **Activities:** IOT&E, LFT&E and Interoperability Testing of Production or Production-Representative Articles; ***IOC possible***
- **Guided by:** CPD, TEMP
- **Exit:** System Operationally Effective, Suitable and Ready for Full-Rate Production

- **Enter:** Beyond LRIP & LFT&E Reports (OSD T&E/LFT&E programs) Submitted to Congress
- **Activities:** Full-Rate Production; Fielding and Support of Fielded Systems; IOC/FOC
- **Guided by:** Acq Strategy & Life Cycle Sustainment Plan
- **Exit:** Full Operational Capability; Deployment Complete

Milestone C: Statutory and Regulatory Requirements

All programs except where noted (see encl. 4, DoDI 5000.02)

- Acquisition Decision Memorandum (ADM)
- Analysis of Alternatives (AoA) (update)
- Acquisition Strategy
- Affordability Assessment
- Acquisition Program Baseline
- Acquisition Information Assurance Strategy
- Benefit Analysis & Determination
- Capability Production Document (CPD)
- Title 40/Clinger-Cohen Act (CCA) Compliance
- CIO Confirmation of CCA Compliance ***(for MDAPs & MAIS, DoD CIO confirms)***
- Consideration of Technology Issues (ACAT I & II)
- Competition Analysis
- ***Component Cost Estimate (CCE)***
- Cooperative Opportunities
- Core Logistics Analysis/Source of Repair Analysis
- Cost Analysis Requirements Description (CARD) (MDAP & MAIS)
- ***Corrosion Prevention Control Plan***
- ***Data Management Strategy (in acquisition strategy)***
- Exit Criteria
- Initial Capabilities Document (ICD) (if program initiation)
- Independent Cost Estimate (ACAT I)
- Independent Technology Readiness Assessment (TRA) (ACAT ID)
- Information Support Plan (ISP)
- Industrial Base Capabilities (MDAP)
- ***Item Unique Identification Plan (SEP annex)***
- Life Cycle Sustainment Plan (LCSP)
- ***Life Cycle Signature Support Plan***
- Manpower Estimate (MDAP)
- MDA Program Certification (if program initiation)
- ***Military equipment valuation (in acquisition strategy)***
- Net-Centric Data Strategy (in ISP)
- Operational Test Agency OT&E Report
- Program Protection Plan (PPP)
- Programmatic Environment, Safety, & Occupational Health Evaluation (PESHE)
- Selected Acquisition Report (SAR) MDAP (if rebaselined)
- Spectrum Supportability Determination
- ***Systems Engineering Plan (SEP)***
- ***System Threat Assessment Report (STAR)(ACAT I)***
- System Threat Assessment (ACAT II)
- Technology Readiness Assessment (TRA)
- Test & Evaluation Master Plan (TEMP)

New terms/requirements in *bold blue italics*

Full Rate Production Decision Review (FRPDR)

MDA Approves:

- Full-rate production
- Updated Acquisition Strategy
- Updated Acquisition Program Baseline
- Exit criteria, if appropriate
- Provisions for evaluation for post-deployment performance
- Acquisition Decision Memorandum (ADM)

FRPDR Statutory and Regulatory Requirements

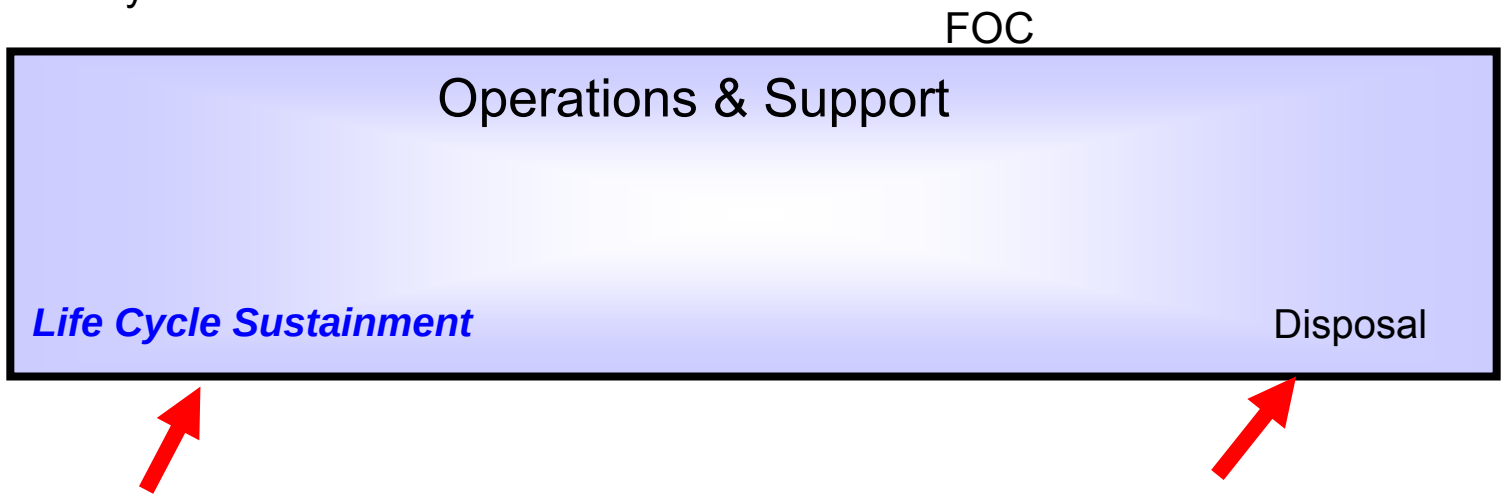
•Acquisition Decision Memorandum (ADM) •Analysis of Alternatives (AoA) (AIS only) •Acquisition Strategy •Acquisition Program Baseline •Acquisition Information Assurance Strategy •Beyond LRIP Report (DOT&E T&E Oversight Programs) •Clinger-Cohen Act (CCA) Compliance •Confirmation of CCA Compliance ***(for MDAPs & MAIS, DoD CIO confirms)*** ***•Component Cost Estimate (CCE)*** •Cost Analysis Requirements Description (CARD) (MDAP & MAIS) ***•Data Management Strategy (part of Acq Strategy)*** •Economic Analysis	•Exit Criteria •IT and NSS Joint Interoperability Test Certification (all IT incl NSS) •IOT&E Completed ACAT I and II (conventional weapons systems for use in combat) •Independent Cost Estimate (ACAT I) (if MDA requests) ***•Life Cycle Sustainment Plan (LCSP)*** •Live Fire T&E Report (OSD LFT&E Programs) •Manpower Estimate (MDAP) ***•Military Equipment Valuation (part of Acq Strategy)*** •Operational Test Agency OT&E Report •Post Implementation Review •Programmatic Environment, Safety, & Occupational Health Evaluation (PESHE) •Test & Evaluation Master Plan (TEMP)

For AIS systems, FRPDR is the Full Deployment Decision Review

New terms/requirements in *bold blue italics*

Operations & Support

Purpose: Execute a support program that meets materiel readiness and operational support performance requirements, and sustains the system in the most cost-effective manner over its total life cycle.



- **Entrance:** Approved CPD**;** ***approved LCSP; successful FRP Decision***
- **Activities:** ***Performance-Based Life-Cycle Product Support (PBL)*** planning, development, implementation, and management; initiate system modifications as necessary; continuing reviews of sustainment strategies
- **Guided by:** Acquisition Strategy/LCSP

- **Activities:** Demilitarize and Dispose of Systems IAW Legal and Regulatory Requirements, Particularly Environmental Considerations and Explosives Safety
- **Guided by:** Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)

New terms/requirements in *bold blue italics*

Detailed
Policy Changes

New Policy Directed by Congress

- Military Equipment Valuation (accounting for military equipment)
- MDA Certification at Milestones A & B
- Cost type contract for EMD Phase requires written determination by MDA
- Lead Systems Integrator Restrictions
- Replaced System Sustainment Plan
- Configuration Steering Boards (CSBs)

New Policy Directed by Congress
Continued…

- New MAIS Reporting Requirements
- "Time-Certain" IT Business Systems Development
- Defense Business Systems Oversight
- MDA assessment of compliance with chemical, biological, radiological, and nuclear survivability (CBRN) requirements at Milestones B and C
- Data Management Strategy

New Policy Directed by Congress
Continued…

- Detailed Acquisition of Services Policy
- Independent management reviews (Peer Reviews) for supplies and services contracts
- Interim Beyond LRIP Report
- DOT&E's Role in Testing Force Protection Equipment / Non-Lethal Weapons
- Nunn-McCurdy breach / APB Revision Procedure
- Cost of energy in AoA and resource estimate

New or Revised Regulatory Policy

- Detailed Systems Engineering Policy
- Program Support Reviews (PSRs)
- Integrated Developmental and Operational Test & Evaluation
- Restricted use of performance requirements that do not support KPPs
- Comparison with current mission capabilities during OT&E
- Assessment of Operational Test Readiness (AOTR)
- Contract Incentives Strategy
- Life-Cycle Sustainment Plan (LCSP)

New or Revised Regulatory Policy
Continued…

- Contracting for Operational Support Services
- Approval of Technology Development Strategy prior to Release of final RFP for Technology Development Phase
- Approval of Acquisition Strategy prior to release of final RFP for EMD or any succeeding phase.
- Reliability, Availability, and Maintainability (RAM) strategy
- Review and Assessment of New or Modified Communications Waveforms.
- ⇨ Evolutionary Acquisition Revised

Enclosure 4, Table 2-2

Statutory Requirements Added For ACAT II and Below Programs
(unless otherwise noted)

Requirement	Reference	When Required	Comment
Analysis of Alternatives (AoA) – all IT including NSS	40 USC Subtitle III	MS A, B & C	Updated as necessary at MS B and C
Data Management Strategy (ACAT II only)	10 USC 2320	MS B, C & FRPDR	Part of Acq Strategy
LRIP Quantities (ACAT II only)	10 USC 2400	MS B	
Military Equipment Program Valuation	PL 101-576 & Statement of Federal Financial Accounting Standards, No 6.	MS C & FRPDR (or Equiv)	Part of Acq Strategy

Enclosure 4, Table 3

Regulatory Requirements Added/Revised For All Programs

(unless otherwise noted)

Requirement	Reference	When Required	Comment
Acquisition Info Assurance Strategy	DoDI 8580.1	MS A, B, C & FRPDR or FDDR	All IT, Including NSS
Analysis of Alternatives (AoA)	DoDI 5000.02	MS A, B, & C Full Deployment DR for AIS	Updated as necessary at MS B and C
AoA Study Guidance	DoDI 5000.02	MDD	
Component Cost Estimate	DoDI 5000.02	MDAP: MS B & FRPDR MAIS: whenever EA is required	Mandatory for MAIS; optional for MDAP
Corrosion Prevention Control Plan	DoDI 5000.02	MS B & C	Part of Acq Strategy ACAT I only
Life Cycle Sustainment Plan	DoDI 5000.02	MS B, C & FRPDR	Part of Acq Strategy
Life Cycle Signature Support Plan	DoDD 5250.01	MS A, B, & C	

Encl 8, Human Systems Integration, changes

- **Mix of military, DoD civilian, and contractor support to operate, maintain and support (including training) system must be determined based on Manpower Mix Criteria and reported in Manpower Estimate**
- **Economic analyses to support workforce mix decisions must use tools that account for all variable and fixed costs, compensation and non-compensation costs, current and deferred benefits, cash and in-kind benefits**
- **Details on Environment, Safety and Occupational Health (ESOH) moved to new encl 12, Systems Engineering**

Encl 9, Acquisition of Services, changes

- **Planning for acquisition of services must consider:**
  - **Requirements development and management**
  - **Acquisition planning**
  - **Solicitation and contract award**
  - **Risk management**
  - **Contract tracking and oversight**
  - **Performance evaluation**
- **Special procedures for IT services that cost over $500M, all services that cost over $1B, and special interest programs designated by ASD(NII), USD(AT&L) or their designees:**
  - **Senior officials/decision authorities must be notified prior to issuing final solicitation (briefing or written)**
  - **ASD(NII)/DoD CIO notifies USD(AT&L) of any proposed acquisition of IT services over $1B**
  - **Review by ASD(NII)/USD(AT&L) initiates review of acquisition strategy – final RFPs cannot be released until approval.**

Encl 9, Acquisition of Services, changes

Continued…

- **Policy extended to services acquired after program achieves Full Operational Capability (FOC), if those services were not subject to previous milestones**
- **Policy does not apply to R&D activities, or services that are approved part of an acquisition program managed IAW DoDI 5000.02**
- **Senior Officials and decision authorities may apply policy to R&D services at their discretion**
- **SAEs are Senior Officials for acquisition of services**
- **USD(AT&L) is Senior Official for acquisition of services for Components outside of military departments – he may delegate decision authority to commanders/ directors of these components**
- **Independent management reviews (Peer Reviews) required for contracts of $1B or more**

Encl 9, Acquisition of Services, changes

Continued...

Acquisition of Services Categories (Table 9)

Category	Threshold	Decision Authority
Acquisitions > $1B	Any services acquisition with total estimated cost of $1B or more	USD(AT&L) or designee
IT Acquisitions > $500M	IT services with total estimated cost of $500M or more	ASD(NII)/DoD CIO or as designated
Special Interest	Designated by USD(AT&L), ASD(NII)/ DoD CIO, or any Mil Dept Senior Official	USD(AT&L) or Senior Officials
Services Category I	Services estimated to cost $250M or more	Senior Officials or as designated
Services Category II	Services estimated to cost $10M or more, but less than $250M	Senior Officials or as designated
Services Category III	Services estimated to cost more than simplified acq threshold, but less than $10M	Senior Officials or as designated

All dollars in FY 2006 constant year dollars

Encl 10, Program Management, changes

- **Requires PMs for ACAT II and other significant non-major programs to be assigned for not less that 3 years.**
- **Program Management Agreements (PMAs) implemented to establish "contract" between PM and acquisition and resource officials**
- **Provides that waivers for PM/PEO experience and certifications "should be strictly avoided."**
- **Provides for USD(AT&L) waiver for PEO's to assume other command responsibilities**
- **Adds US-ratified materiel international standardization agreements to consideration for international cooperative programs**

Encl 11, Management of Business Systems (New)

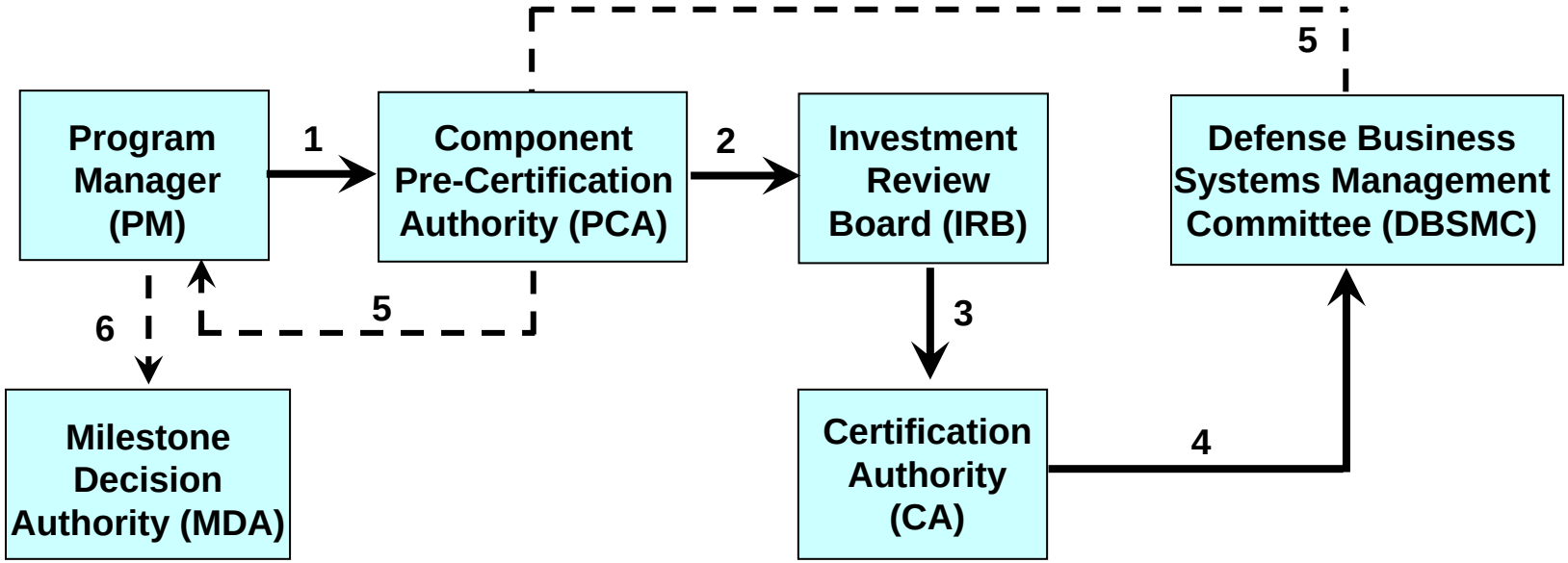
- **Applies to "defense business systems" modernizations with total modernization or development funding exceeding $1 million.**
  - **Defines Defense Business System as an information system, other than a national security system, operated by, for, or on behalf of DoD, including financial management systems, mixed systems, financial data feeder systems, and IT and information assurance infrastructure.**
  - **Defense Business Systems support activities such as acquisition, financial management, logistics, strategic planning and budgeting, installations and environment, and human resource management.**

Encl 11, Management of Business Systems (New), Continued...

- **Funds cannot be expended until the Defense Business System Management Committee (DBSMC) approves Investment Review Board Certification (IRB) that the system:**
  - **Is in compliance with the enterprise architecture; or Is necessary to achieve a critical national security capability or address a critical requirement in an area such as safety or security; or Is necessary to prevent a significant adverse impact on a project that is needed to achieve an essential capability**

Encl 11, Management of Business Systems (New), Continued…

Business Systems Certification and Approval Process



1. PM completes economic viability review & other plans/analysis as requested by the PCA
2. PCA Validates info from PM, forwards certification request to appropriate IRB
3. IRB reviews request, IRB chair recommends appropriate approval authority sign certification memo and request DBSMC approval
4. CA sends signed certification memo to DBSMC for approval
5. DBSMC Chair approves certification and sends decision to the PM through the PCA.
6. PM requests MDA conduct milestone review

Encl 12, Systems Engineering (New)

- **Systems Engineering Plan (SEP) required at each milestone**
- **MDA is approval authority for the SEP**
- **For programs where USD(AT&L) is MDA, and programs on the DT-only portion of OSD T&E Oversight List, SEPs must be submitted to Director, Systems and Software Engineering 30 days prior to DAB/ITAB review**
- **PEOs must have lead systems engineer – oversees SE across PEOs portfolio; reviews SEPs; assesses performance of subordinate systems engineers with PEO and PM**
- **Event-driven technical reviews required – with SMEs independent of program, unless waived by MDA**
- **Requires configuration management to establish and control product attributes and the technical baseline**
- **Spectrum Supportability determination required**

Encl 12, Systems Engineering (New)
Continued...

- ESOH risk management required to be integrated with overall SE process; Programmatic ESOH Evaluation (PESHE) required of all programs regardless of ACAT
- NEPA and EO 12114 (Environmental Effects Abroad of Major Federal Actions) analysis required of PM, approved by CAE
- Addresses PM support of Mishap Accident Investigations
- Requires Corrosion Prevention Control Plan for ACAT I programs at MS B and C
- Requires PMs to employ modular open systems approach to design
- Data Management Strategy (DMS) required to assess long-term technical data needs of the system – included in Acquisition Strategy

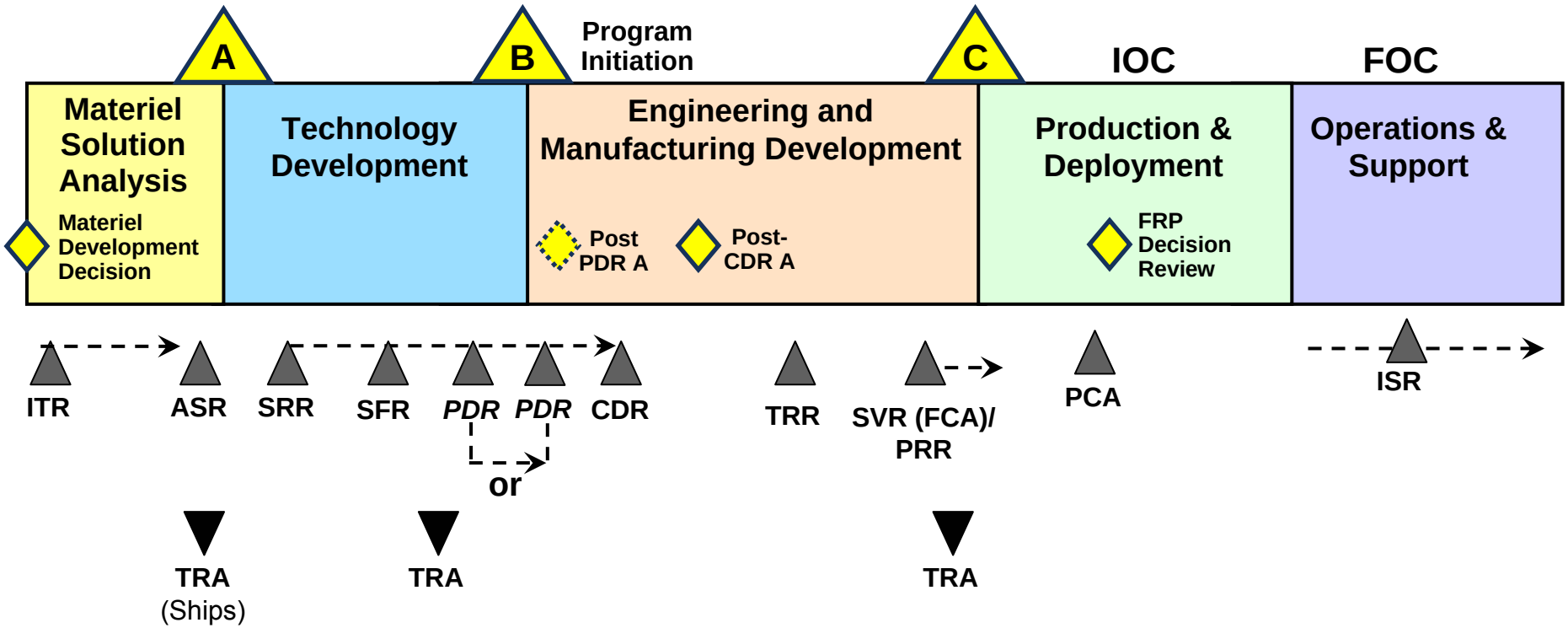
The Acquisition Warrior

Questions?

Defense Acquisition University

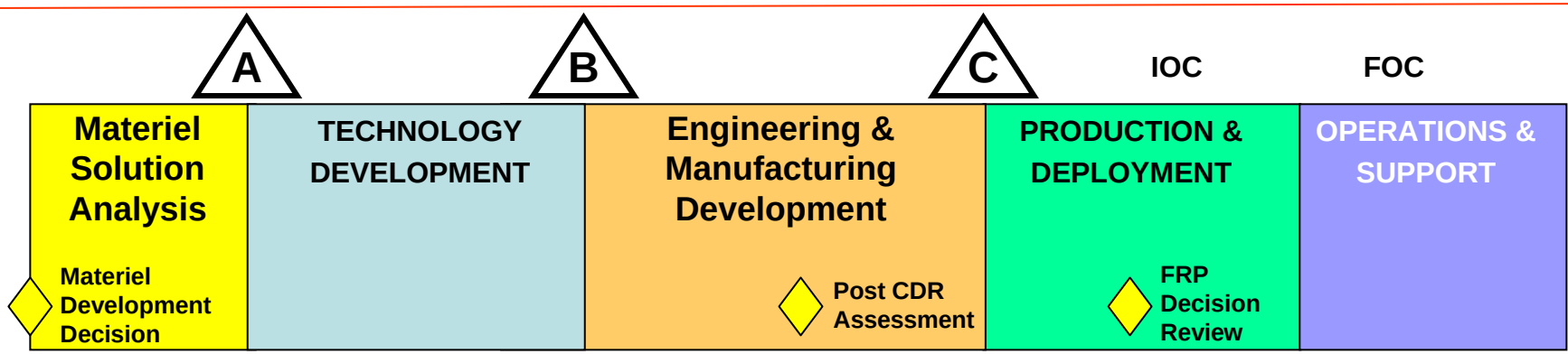
Backups

Systems Engineering Technical Reviews



- Initial Technical Review (ITR)
- Alternative Systems Review (ASR)
- Systems Requirements Review (SRR)
- System Functional Review (SFR)
- Preliminary Design Review (PDR)
- Critical Design Review (CDR)
- Post-PDR Assessment (Post-PDRA)
- Post-CDR Assessment (PCDRA)
- Test Readiness Review (TRR)
- System Verification Review (SVR)
- Functional Configuration Audit (FCA)
- Production Readiness Review (PDR)
- Operational Test Readiness Review (OTRR)
- Physical Configuration Audit (PCA)
- Technology Readiness Assessment (TRA)
- In-Service Review (ISR)

Technology and Manufacturing Readiness



TRLs 1-3 Analytical/ Experimental Critical Function/ Characteristic Proof of Concept	**TRL 4** Component And/or Breadboard Validation In a Laboratory Environment	**TRL 5** Component And/or Breadboard Validation In a Relevant Environment	**TRL 6** System/ Subsystem Model or Prototype Demonstrated In a Relevant Environment	**TRL 7** System Prototype Demonstrated In an Operational Environment		**TRL 8** Actual System Completed Qualified Through Test and Demonstration	**TRL 9** Actual System "Mission Proven" Through Successful Operations
MRLs 1-3 Manufacturing Feasibility Assessed. Concepts defined/ developed	**MRL 4** Capability to produce Technology In Lab Environment. Manufacturing Risks Identified **Manufacturing Cost Drivers Identified**	**MRL 5** Capability to Produce Prototype Components **Cost Model Constructed**	**MRL 6** Capability to Produce System/ Subsystem Prototypes **Detailed Cost Analysis Complete**	**MRL 7** Capability to Produce Systems, Subsystems Or Components in a Production Representative Environment **Cost Model Updated To System Level Unit Cost Reduction Efforts Underway**	**MRL 8** Pilot Line Capability Demonstrated. Ready for LRIP **Engineering Cost Model Validated**	**MRL 9** Low Rate Production Demonstrated. Capability In Place for FRP **LRIP Cost Goals Met Learning Curve Validated**	**MRL 10** Full Rate Production Demonstrated. Lean Production Practices In Place **FRP Unit Cost Goals Met**

Technology Readiness Levels
Defense Acquisition Guidebook
para. 10.5.2

Manufacturing Readiness Levels
Draft MRA Deskbook
May 2008

Section 2366b of Title 10, United States Code, requires certification that: the technology in the program has been demonstrated in a relevant environment to enter Milestone B. [TRL 6]