

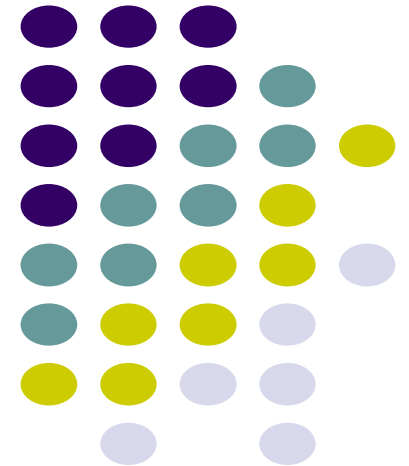
# PM-30 Project Controls Workshop EFCOG

## Project Delivery Working Group



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Washington River Protection Solutions  
Scheduling Task Team Chair  
March 2018

***Developing an Effective Integrated Master Schedule***





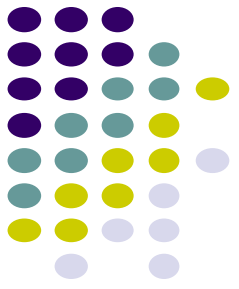
# Problem Statement

***“...in almost every EIR, PPR, EVMS review, etc., an inadequate IMS is highlighted as a major finding, or finding.”***

*- Customer comment to our FY2018 Project Delivery Working Group Work Plan*

# EFCOG Challenge...

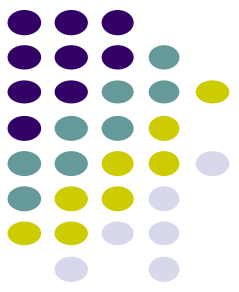
## How do we turn this around?





# What is an IMS?

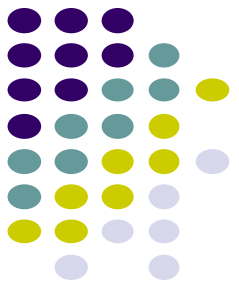
- **IPMR DID – DOE Version October 2017, Section 3.7.1.1**
  - The IMS shall include, at a minimum, discrete tasks/activities, consistent with all authorized work, and relationships necessary for successful contract completion . . . The IMS is a single integrated network that also contains significant external interfaces, Government furnished equipment/information/property and relationship dependencies for the entire contractual effort.



# What is an IMS?

- **Planning and Scheduling Excellence Guide (Version 3.0)**
  - IMS provides the program team with a program execution roadmap of meaningful progress and realistic forecasts against a resource-loaded performance measurement baseline.
  - The primary purpose of any IMS is to help the Program Manager and the Program Team optimize the overall execution strategy of a program, coordinate workflows, and assist in the decision making processes to mitigate risks and resolve challenges on a day-to-day basis.

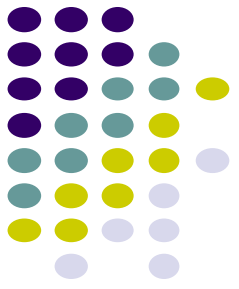
# Build Compliant Integrated Master Schedules



## IMS Building Blocks:

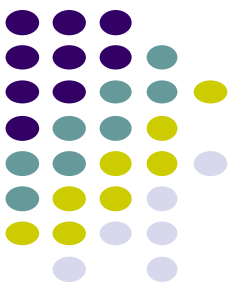
- ***Start with the NDIA EIA-748-C Intent Guide***
  - ***Guideline 6 – Schedule with Network Logic***
    - “a) Schedule the authorized work in a manner which describes the sequence of work and identifies significant task interdependencies required to meet the requirements of the program.”
      - Time-phasing of authorized discrete work for use as a performance measurement baseline.

# Build Compliant Integrated Master Schedules



## IMS Building Blocks:

- ***Understand and employ the applicable tenants of the:***
  - NDIA Planning & Scheduling Excellence Guide (PASEG) and
  - GAO Schedule Assessment Guide Best Practices
- ***Align contractor schedule guidance to the industry standards***

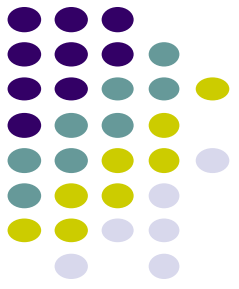


# Leverage Available Industry Guidance

- **NDIA Planning & Scheduling Excellence Guide (PASEG)**
  - Generally Accepted Scheduling Principles (GASP)
  - Leadership, Buy-In, Commitment
  - Schedule Architecture
  - Standard Modeling Techniques
  - Cost & Schedule Resource Integration
  - External Schedule Integration
  - Horizontal & Vertical Traceability
  - Schedule Maintenance
  - Schedule Analysis
  - Business Rhythm & Submittal
  - Training
  - Program & Contract Phase Considerations

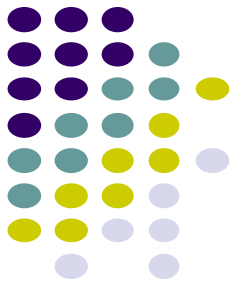


# Incorporate Industry Assessment Guidance



- **GAO Schedule Assessment Guide Best Practices**
  - Capturing All Effort
  - Sequencing All Activities
  - Assigning Resources to All Activities
  - Establishing the Duration of All Activities
  - Verifying That the Schedule Can Be Traced Horizontally and Vertically
  - Confirming That the Critical Path Is Valid
  - Ensuring Reasonable Total Float
  - Conducting a Schedule Risk Analysis
  - Updating the Schedule Using Actual Progress and Logic
  - Maintaining a Baseline Schedule

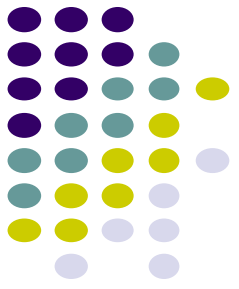
# Focus on Eliminating Recurring IMS “Findings”



Recurring EIR, PPR, EVMS review findings as provided by PM-30 and EFCOG:

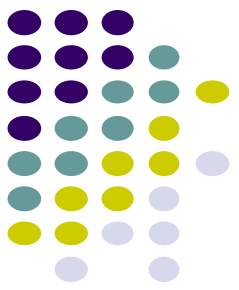
- *Lack of Planning*
- *Lack of Detail/Fidelity in the Schedule*
- *Lack of Baseline Schedule Management*
- *Lack of Forecast Schedule Management*
- *Lack of Process & Management Buy-in*

# Focus on Eliminating Recurring IMS “Findings”



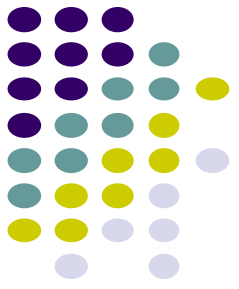
- **Lack of Planning**
  - Utilize an Integrated Master Plan / Integrated Master Schedule (or like) approach
  - To the extent practical, ensure all known deliverables are included during the schedule development process
  - Ensure risk mitigation activities are integrated into the schedule
  - Resource allocation

# Focus on Eliminating Recurring IMS “Findings”



- **Lack of Planning (continued)**
  - Overly optimistic
    - Schedules should be aggressive yet achievable.
    - Durations are based on “most likely” estimates, opposed to best or worst case.
    - Successful schedules include margin to account for risks/uncertainty, based on the results of a Schedule Risk Assessment (SRA).
    - Avoid building schedules with reduced durations or incomplete logic with the intent of meeting management or customer imposed schedule or budget targets.

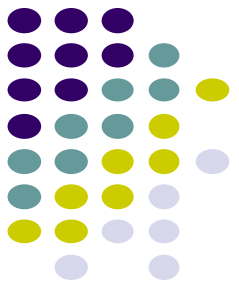
# Focus on Eliminating Recurring IMS “Findings”



- **Lack of Detail/Fidelity in the Schedule**
  - Not enough detail / Excessive durations
  - Too much Detail, especially far-term effort

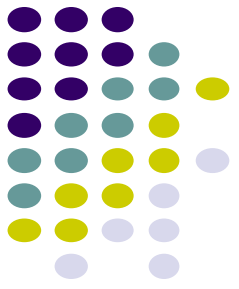
So . . .

# Focus on Eliminating Recurring IMS “Findings”



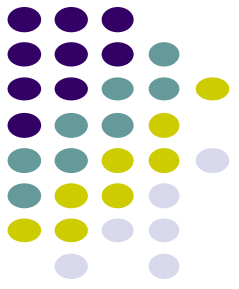
- **Lack of Detail/Fidelity in the Schedule (continued)**
- ***Utilization of Rolling Wave planning:*** Over time, more is known about the project. The schedule is continually monitored and detailed planned to reflect the increased knowledge.
  - Increased schedule detail: Planning Package to Work Package conversion.
  - Updates to Schedule Risk Assessments: SRA should included any new, revised or mitigated risks.
  - Revised estimates: Estimates are updated as necessary in parallel with revisions to schedule detail and SRA results.

# Focus on Eliminating Recurring IMS “Findings”



- **Lack of Detail/Fidelity in the Schedule (continued)**
  - Missing logic or incorrect logic
  - Redundant logic
  - Excessive logic (merge bias)
  - Out of Sequence Logic
  - Lags and Constraints
  - Avoid over-reliance on supplemental schedules

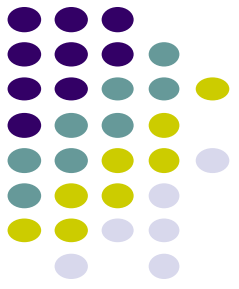
# Focus on Eliminating Recurring IMS “Findings”



- Lack of Baseline Schedule Management
- ***Not maintaining the baseline schedule invalidates the PMB and any association of performance measurement.*** A Baseline schedule which no longer accurately reflects the execution strategy fails to provide management with a meaningful basis for performance management
  - Examples: Significantly behind (or ahead) of schedule, make vs. buy decisions, significant change (additions, elimination, revisions) to requirements.

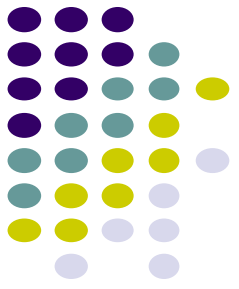


# Focus on Eliminating Recurring IMS “Findings”



- **Lack of Baseline Schedule Management (continued)**
  - Baselining to late dates in order to report favorable metrics.
  - Lack of integration of subcontractor schedules into the baseline to reflect negotiated start and finish dates and hour/dollar spreads to align with schedule of values.

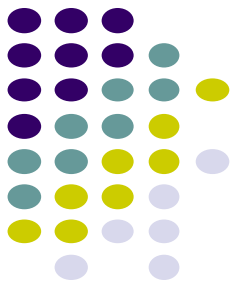
# Focus on Eliminating Recurring IMS “Findings”



- **Lack of Forecast Schedule Management**
  - Updates to the forecast schedule follow a consistent business rhythm
    - Consistent status dates
    - Allows time for review

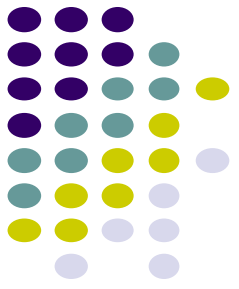
# Focus on Eliminating Recurring IMS

## “Findings”



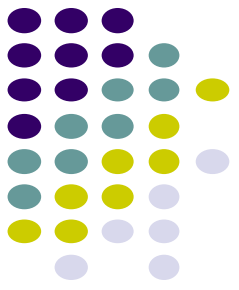
- **Lack of Forecast Schedule Management (continued)**
- Not maintaining the forecast schedule with updated status and ETC time-phasing:
  - The forecast schedule includes accurate progress to date (actual starts, finishes, and percent complete).
  - All future durations and forecasted resource needs are updated as necessary to reflect the most up to date information.
  - Adjustments to logic are made to reflect work around strategies in the forecast schedule.

# Focus on Eliminating Recurring IMS “Findings”



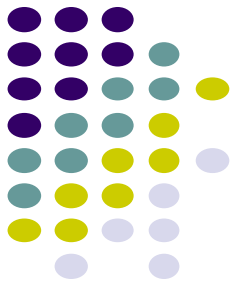
- **Lack of Process & Management Buy-in**
  - Ensure CAM understanding on the differences between the Baseline and Forecast schedules and their roles and responsibilities throughout the process.
  - The WBS, Schedule and Cost Estimate align with each other.
  - Integrate Cost Estimating and Schedule Risk into the schedule development process.

# Focus on Eliminating Recurring IMS “Findings”



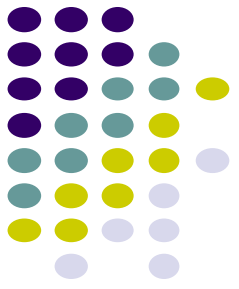
- **Lack of Process & Management Buy-in (continued)**
  - Utilize standardized processes: Data dictionary, reporting calendar, common durations/templates when applicable.
  - Perform frequent analysis of schedule health and document results.
  - Continually review processes and procedures against evolving industry guidance.
    - Provide continued training on changes to process or to reinforce existing requirements
    - Leverage on results of schedule health analysis to ensure compliance to processes and procedures

# Focus on Eliminating Recurring IMS “Findings”



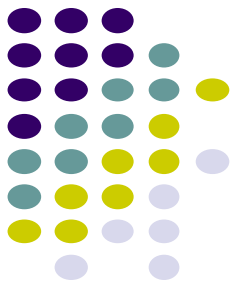
- **Lack of Process & Management Buy-in (continued)**
  - “A poorly constructed schedule is a program management problem, and not a planner/scheduler problem. A poorly constructed schedule is a result, not a cause. Find the root cause” (PASEG V3.0)
  - Schedules which do not provide management value will be replaced by auxiliary tools which voids the IMS.

# Utilize Peer Reviews to Assess Compliance



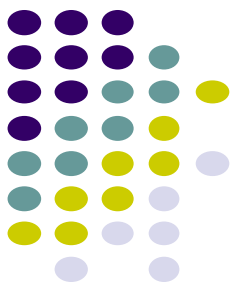
- **EFCOG Proposes utilization of the Project Delivery Working Group Scheduling Task Team**
  - Task team would operate under the “Poneman” Project Peer Review Memorandum
  - Coordinated with and by the EFCOG Scheduling Lead

# Utilize Peer Reviews to Assess Compliance



- Review team would be available to provide schedule analysis to assess the compliant condition of schedules in support of and in advance of scheduled:
  - EIR's
  - IPR's
  - IBR's
  - PPR's
  - EVMS Certifications and Surveillances
  - Or other activities as requested by DOE or EFCOG contractors



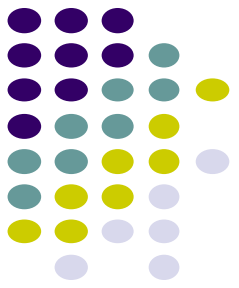


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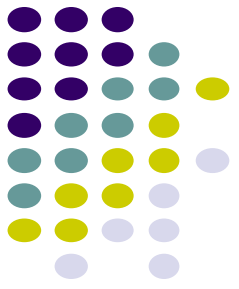
*- Customer comment to our FY2018 Project Delivery Working Group Work Plan*

# Effective IMS Implementation Process Summary



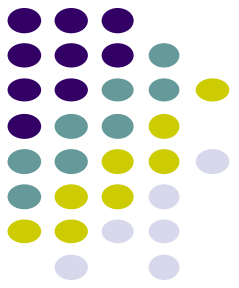
- **Leverage on Industry and internal guidance when building an IMS**
  - NDIA EIA-748-C Intent Guide Guideline 6 – “Schedule with Network Logic”
  - NDIA PASEG
  - GAO Schedule Assessment Best Practices
  - Align contractor IMS schedule implementing policy, procedures, guides, processes, tools, and training with the industry guidance (above).

# Effective IMS Implementation Process Summary



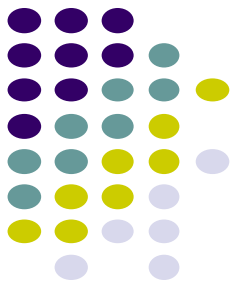
- **Focus on Eliminating Recurring Findings**
  - Lack of Planning
  - Lack of Detail/Fidelity in the Schedule
  - Lack of Baseline Schedule Management
  - Lack of Forecast Schedule Management
  - Lack of Process & Management Buy-in

# Effective IMS Implementation Process Summary



- **Assess Compliance**
  - Routinely assess schedule health metrics.
  - Routinely assess implementation procedures, guides, processes and schedules to assure continued alignment.
  - Consider an EFCOG Schedule Peer Review to validate compliance and guard against bias.
  - Share peer review results with EFCOG members to provide lessons learned, reinforcing self-governance.

# Effective IMS Implementation Process Summary



- **Use the IMS**
  - An effective IMS is used in the decision making process.
  - When the IMS is not used to make decisions, identify and address the cause.
  - As the causes are addressed the IMS will begin to build credibility, thus increasing its use as a management tool

# Discussion and Ideas!

