Naval Facilities Engineering Systems Command

Construction Schedules

and Adhering to Federal Specifications

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Why this matters

- A credible plan is the foundation for performance and accountability
  - Construction is complex; without a credible plan, outcomes become reactive vice proactive
  - NAVFAC's obligation: steward taxpayer resources through disciplined project control
  - With constrained government staffing, we must rely on consistent contractor management products
  - The schedule is not an admin deliverable — it's the primary control instrument

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The NAS: not a hoop to jump through…it's your plan!

- **The NAS is your plan presented in an analyzable form**
  - **Mathematical model of your means/sequence of construction (CPM network logic)**
  - **Integrates: Scope + Time + Cost**
  - **Creates a shared reference point for:**
    - Execution management
    - Progress measurement
    - Payment determination
    - Time impact evaluation

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CPM basics (what NAVFAC expects)

- CPM is not a Gantt chart — it's logic + calculation
  - Activities represent definable work; durations must be reasonable
  - Logic ties must reflect real sequence – intent and capability
  - Critical path = longest path that drives completion
  - Float is a model output — not a management strategy
  - Constraints make the schedule non-credible

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Cost-loading basics (why we require it)

- Cost-loading turns a schedule into a management and payment tool
  - The schedule becomes the basis for progress payment determination
  - Cost distribution across activities creates a transparent cashflow model
  - Prevents front-end loading and “pay ahead of progress” dynamics
  - Enables earned value-type visibility (plan vs actual)

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Cost-loading rules of thumb (the “credible” standard)

- What “credible” cost-loading looks like (at a high level)
  - Total activity costs sum to the current contract value
  - No gaming: avoid front-end loading / disproportionate early weighting
  - Overhead/profit distributed appropriately (not dumped into early bars)
  - Procurement cost-loaded only where allowed
  - Government-responsible activities carry $0

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Baseline NAS: what NAVFAC needs to accept it

- **Baseline acceptance = a credible, executable plan**
  - **Complete scope representation**
    - Design
    - Submittals
    - Procurement
    - Construction
    - Testing
    - Closeout
  - **Logic is defensible and reflects real sequence**
  - **Reasonable activity durations**
  - **Calendars are justified**
  - **Milestones align to contract requirements**
  - **Narrative explains plan, assumptions, and key risks**

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Monthly updates: disciplined status is non-negotiable

- Updates are how the schedule stays credible
  - Actual starts/finishes reflect reality (and align with daily reports)
  - Original Durations are not modified without COR/KO approval
  - Logic revisions are controlled, explained, and limited to what changed
  - Narrative: critical path, changes since last update, near-term risks, recovery plan
  - The update must be timely — stale data isn’t management

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How NAVFAC uses your NAS (this is the “why”)

- NAVFAC uses the NAS for four core functions
  - Government planning tool (the plan you’re executing)
  - Progress measurement / invoicing basis (cost-loaded earned progress)
  - Change and delay analysis (TIA quantum and logic-based impacts)
  - Early warning & risk management (forecasted completion, negative float, bottlenecks)

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Common logic failure modes (industry-wide)

- Typical schedule problems that make the NAS non-credible
  - Missing or weak logic (open ends or lags)
  - Use of constraints masking critical path
  - Activities too long to manage (hides sequencing and accountability)
  - Level Of Effort used
  - Cost-loading that doesn't match work reality (front-end, lumped overhead, misallocated procurement)
  - Status that doesn't match field reality (paper progress)

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What changes going forward (NAVFAC NW approach)

- **We will enforce UFGS 01 32 17.00 20 as written**
  - **The schedule submittal is a contract requirement**
  - **Nonconformant schedules will be returned/rejected for correction**
  - **Payment and schedule credibility are linked**
  - **Expect consistent review against the specification's objective requirements – checklist as a start!**
  - **Goal: fewer surprises, fewer disputes, better outcomes**

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Practical actions for contractors (how to succeed)

- What high-performing teams do consistently
  - Run a Preliminary Schedule Meeting (PM + superintendent + QCM + scheduler)
  - Maintain a disciplined weekly planning rhythm tied to the NAS
  - Status the schedule with actual field conditions
  - Manage long-lead procurement explicitly
  - Treat schedule submittals like a formal process (quality checks before submission)

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Closing

- Credible NAS = Credible project delivery
  - NAVFAC NW wants a collaborative, predictable delivery environment
  - A conformant, cost-loaded CPM NAS is the foundation of that environment
  - Going forward: conformance will be required

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Resources

- **NAVFAC UFGS 01 32 17.00 20 *"Cost-Loaded Network Analysis Schedules (NAS)"***
- **U.S. GAO – "Schedule Assessment Guide" (2015)**

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