



PROJECT MANAGEMENT
CENTER FOR EXCELLENCE

A.J. CLARK SCHOOL OF ENGINEERING
Civil & Environmental Engineering Department



INS AND OUTS STRUCTURING THE SCOPE PORTION OF A COMPLEX CONSTRUCTION PROJECT PEER REVIEW

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2020 Project Management Symposium

Ins and Outs



STRUCTURING THE SCOPE PORTION OF A
COMPLEX CONSTRUCTION PROJECT PEER REVIEW

70%

**of projects fail
due to scope**

- CHAOS Report 2014
(Standish Group)

31%

**of projects fail to
deliver intended
benefits**

- State of Project
Management Report
2016 (Wellington Group)

52%

**of projects
completed in 2017
experienced
uncontrolled
changes to scope**

- Pulse of the Profession
2018 (Project Management
Institute)

40%

**of projects do not
have a scoping
document**

- State of Project
Management Report
2017 (Wellington Group)

Change in priorities

:

:

Change in project
objectives

:

:

Inaccurate requirements



Uncontrolled scope.

- Pulse of the Profession 2018
(Project Management Institute)

INITIAL
QUESTION
?

How might one **understand**, and determine the **completeness** of, the scope prior to setting the **baseline**?

About your presenter

Responsible for capital asset acquisition **project policy** at the U.S. Department of Energy.

Agency budgets \$3 to \$5 billion on capital asset acquisition projects annually.

Previously employers: National Science Foundation, Smithsonian Institution, USDA, and the University of Maryland College Park.

- M.S., Civil Engineering (Construction Management), UMCP.
- B.S., Bioresource Engineering (Structures), Rutgers University.



Ivan Graff

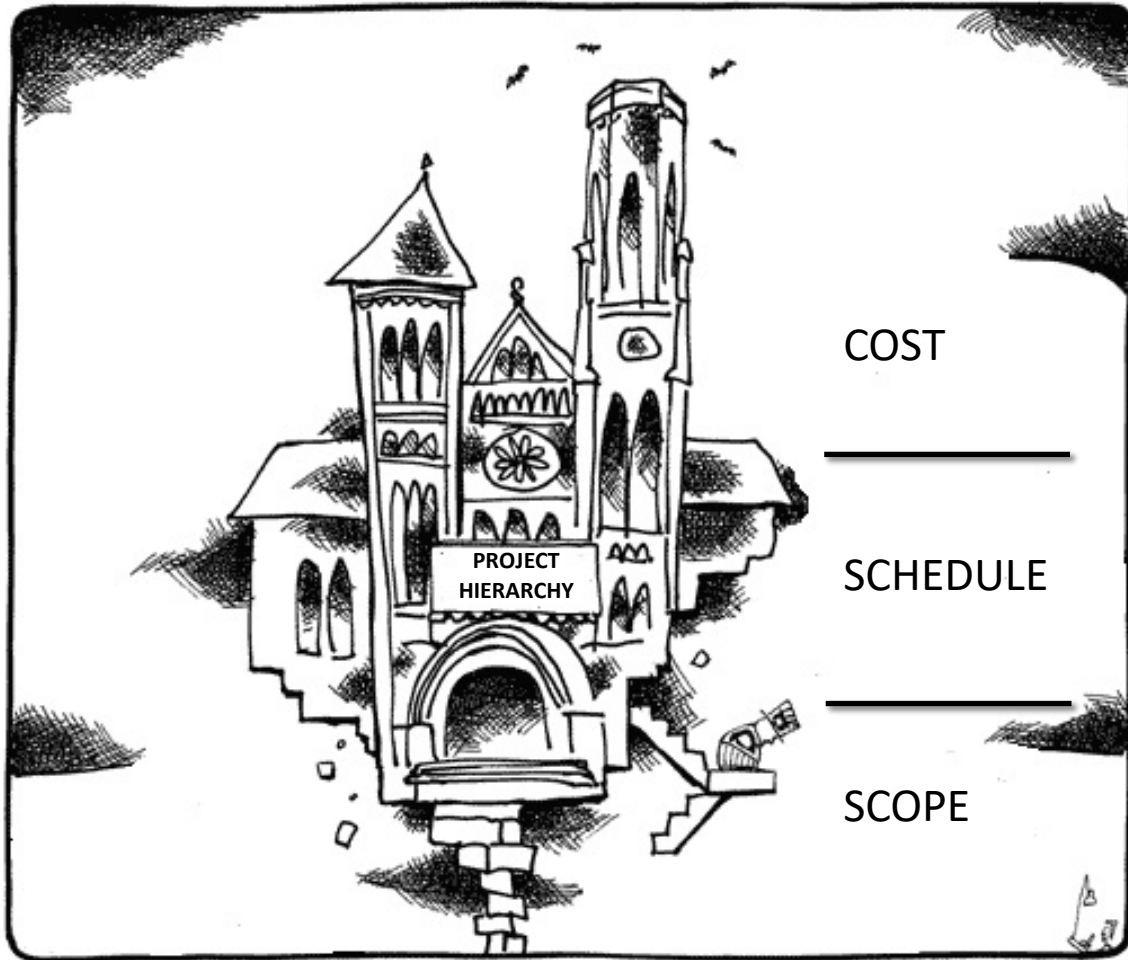
P.E., PMP, CCP,
CFM, LEED-AP
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The views expressed by the speaker do not necessarily reflect those of his employer.

Scope Baseline:

1. Scope Statement
 2. Work Breakdown Structure
 3. Work Breakdown Structure Dictionary
-

PROJECT MANAGEMENT INSTITUTE
PROJECT MANAGEMENT BODY OF KNOWLEDGE, 6TH ED.
SECTION 5.4.3.1



Based on a Tom Toles cartoon (June 2007)

$$\text{Schedule} = f(\text{Scope})$$
$$\text{Cost} = f(\text{Scope}, \text{Schedule})$$

Purpose of a Project Peer Review

1. Reduces the likelihood of a **project failure** by identifying existing or potential problems.
2. Evaluates –
 - a. **Capacity** – quality and quantity of assigned resources
 - b. **Compliance** – with internal rules, code or record, commitments to oversight entities
 - c. **Fidelity** – to stakeholder expectations
 - d. **Thoroughness** – comprehensiveness of planning
 - e. **Efficiencies** – leveraging others
 - f. **Maturity** – readiness for the next stage or phase

Typical Reviewer Roles

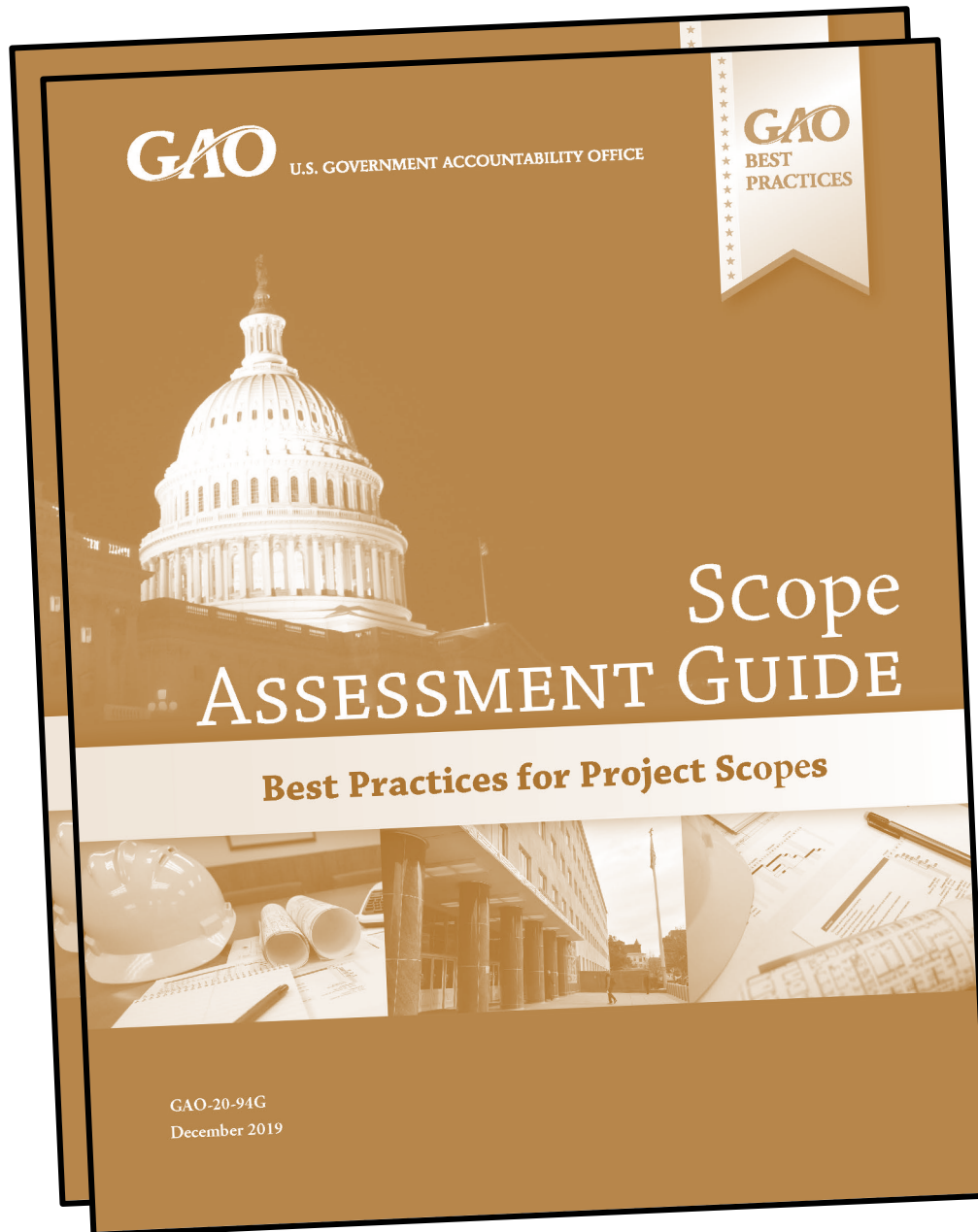


Indicators of Complexity

- Number and kinds of . . .
 - Capital assets acquired or improved
 - Performing entities
 - Stakeholders
 - Schedule activities
 - Risks

- Maturity of . . .
 - Technologies
 - Project processes

- Surrogate: Cost of the Project



- Does not exist. 😞
- GAO has no plans to write this.

GAO Scheduling Guide 16-89G

Best Practice #1, Capturing all activities.

- *Capturing All Effort*
- *Work Breakdown Structure*
- *Activity Codes*
- *Best Practices Checklist: Capturing All Activities*
- *Appendix III Best Practice 1 Capturing All Activities*

GAO Cost Estimating Guide 20-195G

From the perspective of a cost estimate:

Pin down the technical scope. (p.33)

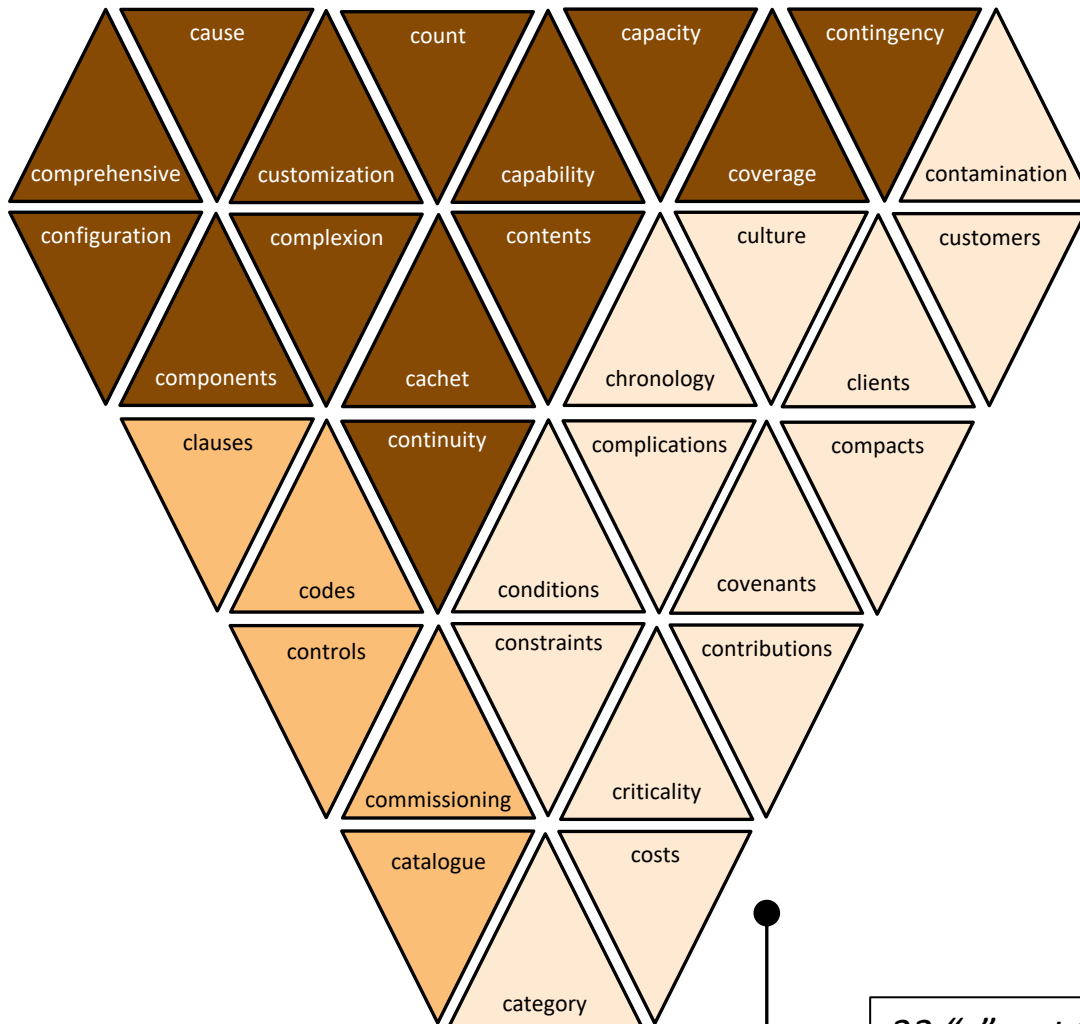
- Purpose, Scope, and Schedule
- Technical Baseline Description
- Work Breakdown Structure

Solution No. 1

TOOL TO ORGANIZE THE SCOPE STATEMENT AND
THE SECTION OF THE PROJECT REVIEW REPORT
SUMMARIZING THE PROJECT SCOPE

PROPOSED CONSIDERATIONS FOR A SCOPE STATEMENT

33 C's



Regions:

- **A**tttributes
- **B**asis
- **C**ircumstances

33 "c"arat SCOPE gem

ATTRIBUTES

Comprehensiveness

Cause (Charge)

Customization

Count

Capability

Capacity

Coverage

Configuration

Components

Cachet

Complexion

Continuity

Contents

Contingency

Clauses

Controls

Codes

Catalogue

Commissioning

CIRCUMSTANCES

Customers

Complications

Criticality

Clients

Compacts

Contamination

Conditions

Covenants

Chronology

Constraints

Contributions

Costs

Culture

Solution No. 2

TOOL TO VALIDATE THE SCOPE

Requirements Traceability Matrix

ID	Type	Description	Justification	Originator Information	Priority	Priority Assignment Date	WBS Reference	Completion Test
1								
2								
3								
4								
5								
6								
7								



Questions?

Please type your questions in the chat box.