NIGP FORUM
Connecting Procurement Communities
SALT LAKE CITY, UTAH
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HOUSTON WE HAVE A PROBLEM

Supplier Performance

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TOPIC DISCUSSION

APOLLO 13 TRIVIA

MISSION CRITICAL

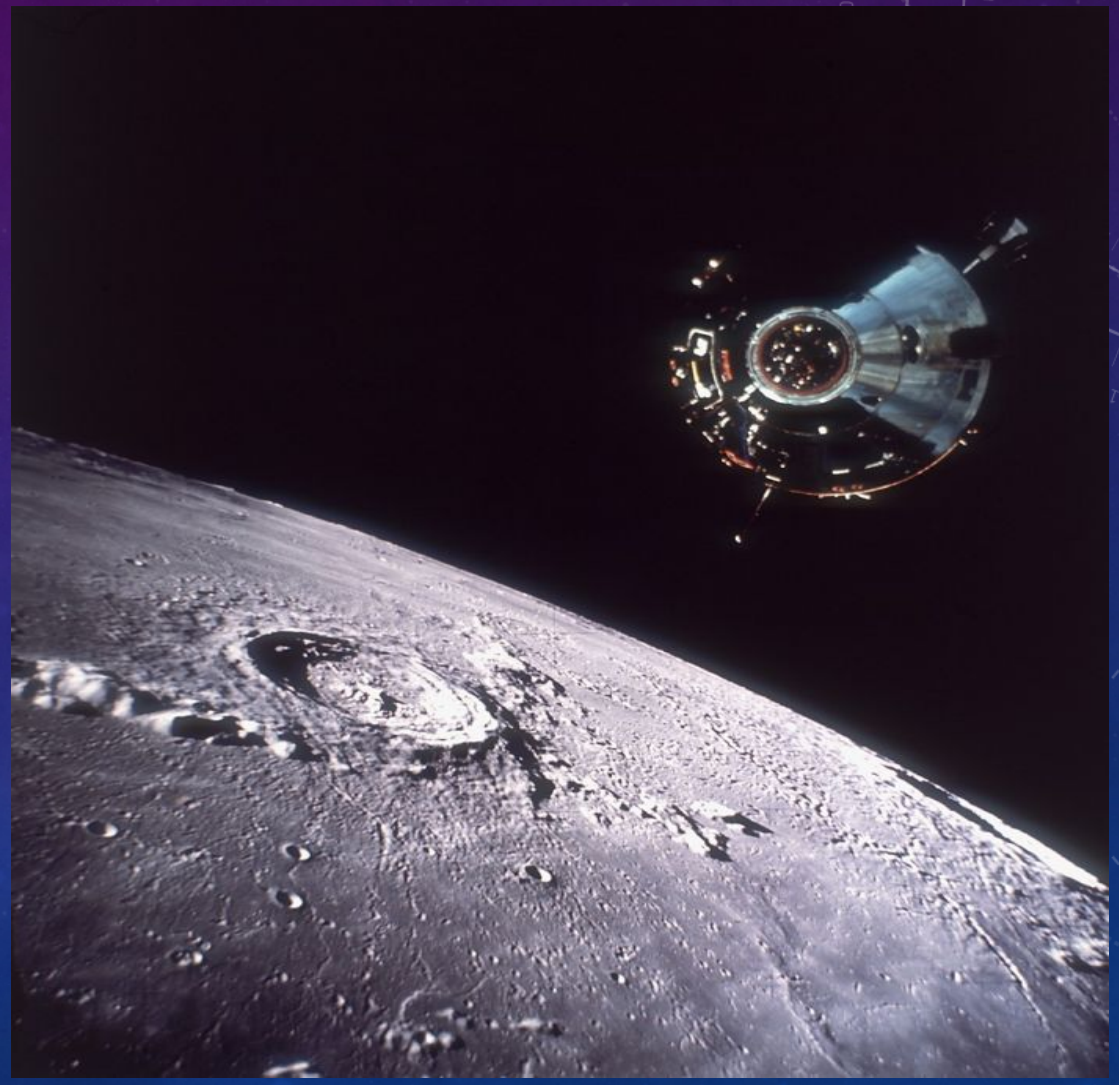
- Risk Assessment
- Specification Development
- Contract Execution

MISSION CONTROL

- Contract Management Team
- Monitoring/Inspection
- Issue Mitigation
- Contingent/Alternative Solutions

MISSION COMPLETE

- Close Out
- Lessons Learned



MISSION CRITICAL

Risk Assessment

Specification Development

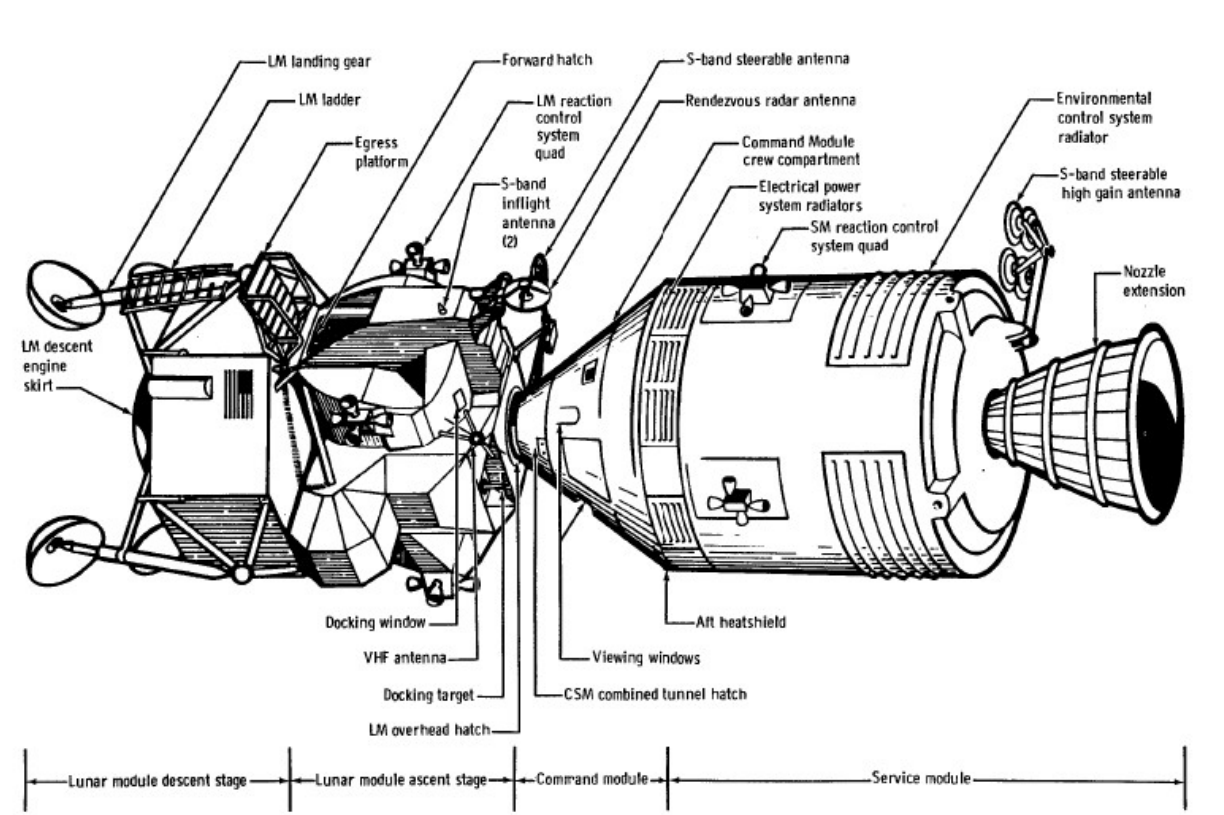
Contract Execution

RISK ASSESSMENT

General Contract Type	Wrong Product	Delays	Definition of Acceptance	Change Order	Conflict	Other Sources	Poor Performance	Risk of Failure/ Terminate	Sub Contractors	Cost
Supplies and Small Purchases	X	X								
Capital Outlay	X	X						X		X
Professional Services (e.g. Architects)		X	X	X	X	X				
Contracted Services (e.g. Custodial)			X	X	X		X	X	X	
Software		X	X	X		X	X	X	X	
Leases				X	X	X	X			
Construction		X		X	X	X		X	X	

Wright, Elisabeth, and William D. Davison. *Contract Administration*. Herndon, VA: National Institute of Governmental Purchasing, (NIGP), 2007. Print

SPECIFICATION DEVELOPMENT



Apollo 13 space vehicle configuration.

- Avoid using arguable or ambiguous words
- Avoid using contractor's standard contract
- Be explicit about corrective actions and consequences for non-performance
- Termination clauses should be specific

SPECIFICATION DEVELOPMENT

COMMAND MODULE
Crew size: 3
Length: 3.5 m
Maximum diameter: 3.9 m
Habitable volume: 6.17 m^3
Total mass: about 5,806 kg
(structure 1,567 kg; heat shield 848 kg; reaction control system 400 kg; recovery equipment 245 kg; navigation equipment 505 kg; telemetry equipment 200 kg; electrical equipment 700 kg; communications systems 100 kg; crew seats & provisions 550 kg; crew mass 216 kg; misc contingency 200 kg; environmental control system 200 kg; propellant 75 kg)
Reaction control system
thrusters: 12 x 410 N
propellant: NTO/MMH
specific impulse: 290 s
total impulse: 257 kNs
L/D hypersonic: 0.3
Power: Ag-Zn batteries; 3 × 40 Ah each, 28 V DC; 3.4 kWh; inverters produced 115 V AC
Environment: pure oxygen at 340 mbar
Landing system: service module is jettisoned before entering Earth's atmosphere. Pitch control jets turn command module so heat shield orientates to withstand heating up to 2,742°C. Skipping by module's aerodynamic lift, commander maneuvers within 42 km wide reentry corridor. Drag-braking reduces speed to around sonic velocity at 9.14 km. Drogue parachutes deploy at 7.62 km. From 4.57 km, three 24.4 m diameter ringsail parachutes lower module gently into sea. Atmosphere entry angle 5.3°-7.7° at 121.92 km. Maximum deceleration ~6 g

Suggested Outline for Scope of Work

- Introduction and General Information
- Task Description
- Constraints on the Contractor
- Contractor Personnel Requirements
- Contractor Responsibilities
- Local Government Responsibilities
- Evaluation of Contractor Performance
- Reporting Requirements and Procedures
- Special Conditions
- Special Instructions
- Exhibits

CONTRACT EXECUTION

Be Cautious of Contractor's Standard Contract Provisions

- Applicable law
- Limitation of Liability
- Termination
- Arbitration
- Indemnification
- Unusual Rights of Contractor
- Limiting Services
- Non-substitution
- Insurance
- Payments

Apollo 13 launches from Kennedy Space Center, April 11, 1970

MISSION CONTROL

Contract Management Team

Monitoring/Inspection

Issue Mitigation

Contingent/Alternative Solutions

CONTRACT MANAGEMENT TEAM

- Same group that defined performance measures
- Respective roles and responsibilities established
- Each member should understand their authority and limits to authority
- Team should involve:
  - Contract Manager
  - Project Officer
  - Financial Auditors
  - Legal Counsel

CONTRACT MANAGEMENT TEAM

Contract Manager

- The contracting officer responsible for coordinating activities
- Responsible for handling the business relationship with the contractor
- Establishes formal method of documentation
- Acts as coordinator, organizer, mediator and enforcer
- Ensures both parties meet their obligations

CONTRACT MANAGEMENT TEAM

- Project Officer
  - Field manager for project
  - Most familiar with the program or service
  - Verifies qualifications of contractor's personnel
  - Conducts scheduled and unscheduled inspections
  - Reports on contractor performance
  - Advises Contract Manager of potential problems

PERFORMANCE EVALUATION

- Monitoring is the process where team oversees performance
- Complacency is biggest threat to success
- Don’t make interpretations of the intent of the contract
- Don’t authorize expenditures except in accordance with contract
- Don’t advise the contractor

PERFORMANCE EVALUATION

- Documentation is vital to contract management
- Buyer is responsible for maintaining master file to include, at a minimum:
  - Specifications
  - Contract, Permits, or Licenses
  - Bonds/Insurance
  - Bids/Proposals
  - Correspondence
  - All Performance Documents

PERFORMANCE EVALUATION

- Performance Documents should include:
  - Contract Manager's checklist of activities
  - Observation record
  - Discrepancy report
  - Contractor performance reports
  - Contract status reports

Home Paper Of 41 Communities

Pharos-Tribune & Press

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Founded in 1844— TUESDAY EVENING, APRIL 14, 1970 Price Per Copy, Ten Cents

Anxious World Watches Crippled Apollo Return

Astronauts Saved By Lunar Lander

By AL ROSSITER Jr.
UPI Space Writer

SPACE CENTER, Houston (UPI)—Using their moon lander as a lifeboat in space, Apollo 13's astronauts gunned their crippled spaceship far home today after narrowly escaping death in a mysterious explosion 200,000 miles from home. An anxious world watched worriedly.

While veteran moon flier take them around its far side—133 miles from its jagged mountain peaks — and then home.

Little Power

The explosion apparently ruptured one of the ship's fuel cell power generators and an oxygen tank, rapidly spewing oxygen into space. Without that oxygen, the generators could not run and the command ship was powerless except for

2 ASTRONAUTS INSIDE LM

1 ASTRONAUT IN COMMAND SHIP

SERVICE MODULE

COMMAND MODULE

FUEL CELL POWERPLANTS

OXYGEN TANKS

HYDROGEN TANKS

HELIUM TANK

SERVICE MODULE

FUEL SUMP TANK

FUEL STORAGE TANK

APOLLO 13

SOURCE OF TROUBLE—An artist's diagram spots the source of trouble that caused the Apollo 13 moon mission to be aborted Monday. An explosion of unknown origin apparently ruptured one of the ship's fuel cell power generators and an oxygen tank in the service module, leaving the command ship powerless except for batteries, which will be used for re-entry. (UPI)

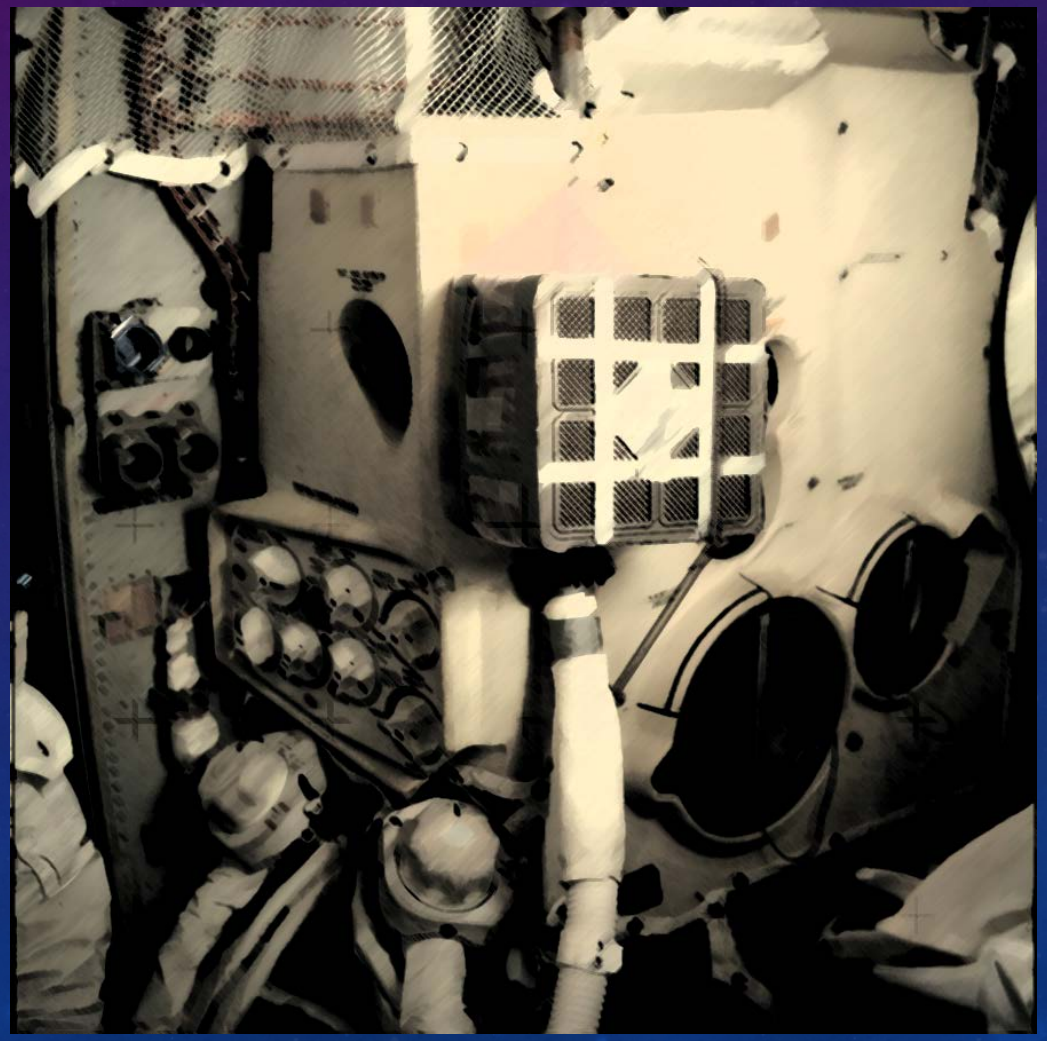
PROBLEM SUPPLIERS

- Identify the problem or issue
  - Document user department's comments
  - Make sure user is not exploiting the contract
- Communicate/Meet with problem supplier
  - Attempt to mediate problem
  - Document all communication
- Place supplier in breach if no resolution is found within reasonable time
  - Work with attorney and governing body

PROBLEM SUPPLIERS

Five Step Process – Due Diligence

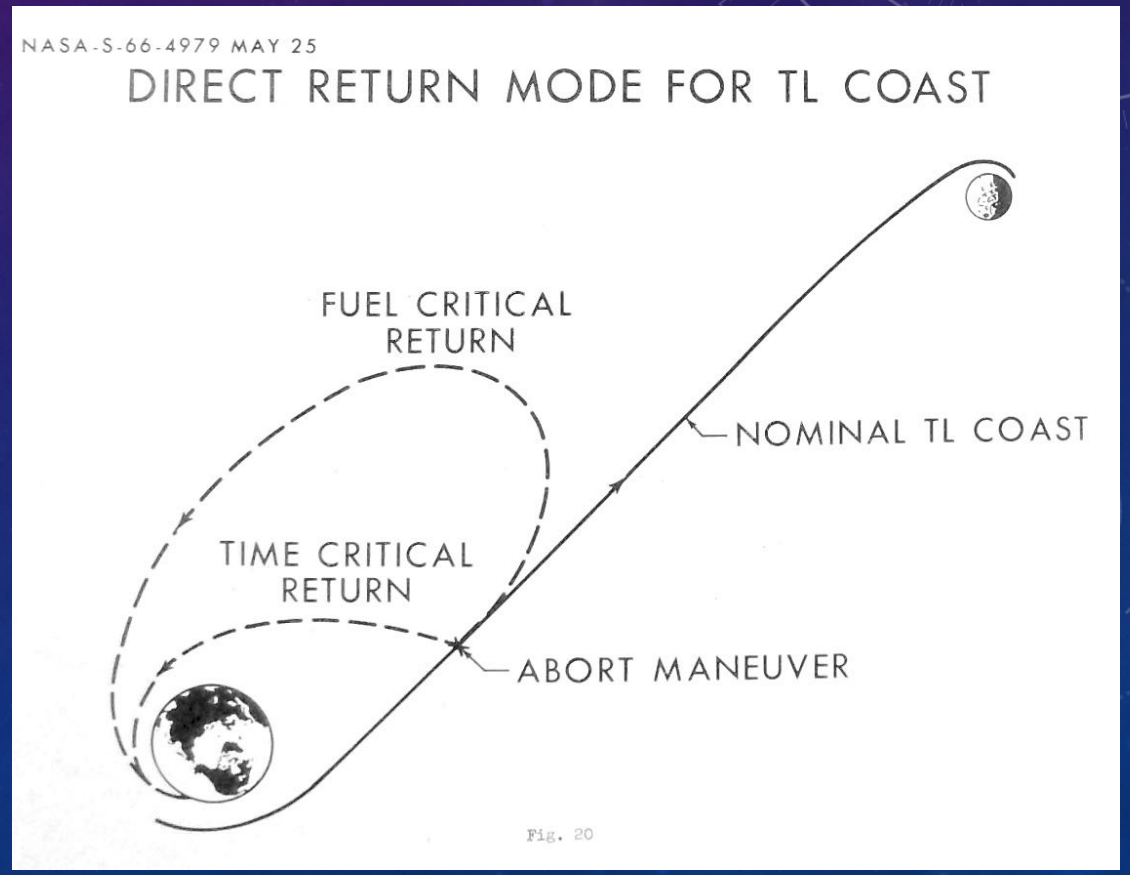
- Field Contact
- Telephone Call
- Contractor Meeting
- Enforcement
- Cancellation



CONTINGENCY/ALTERNATIVE SOLUTIONS

Plan for Default Before Award

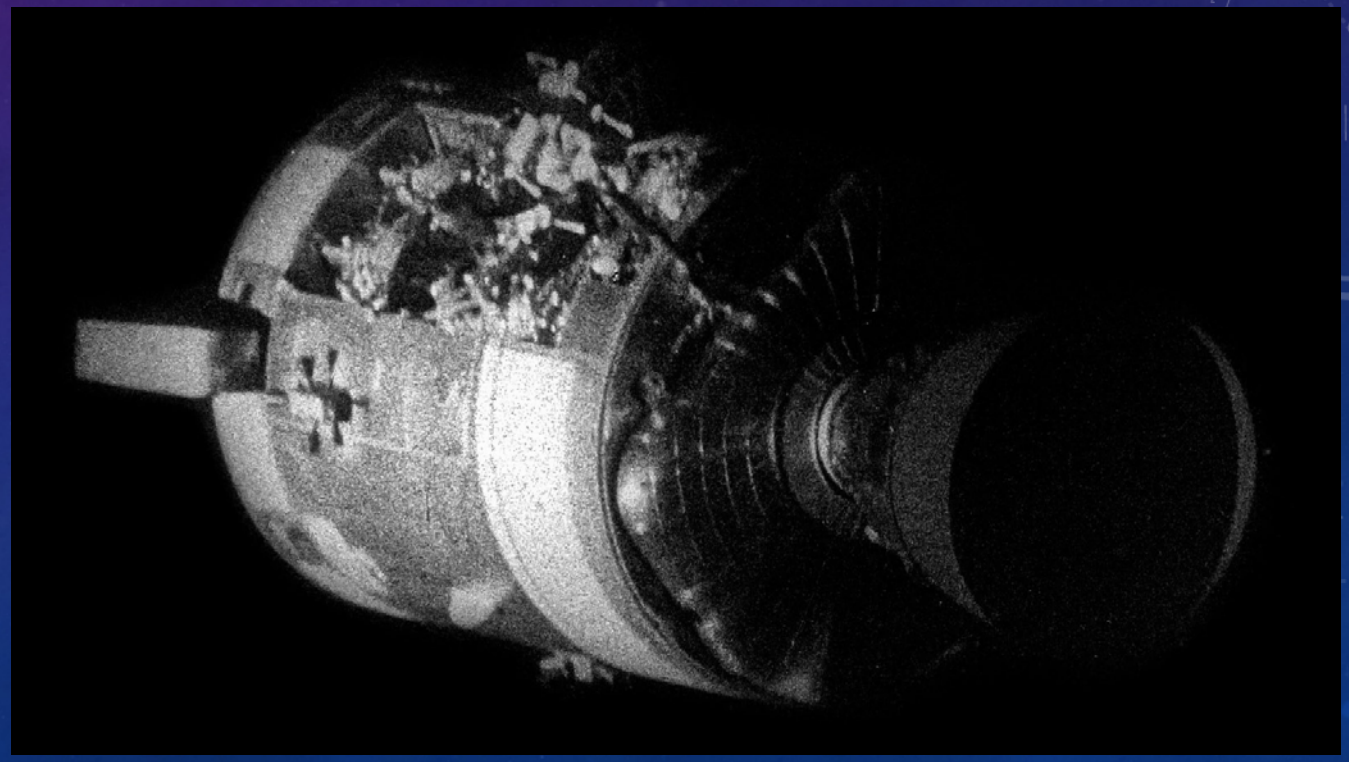
- Biding time
- Contract with next lowest bidder
- Using another current contract
- Delivering the service in-house
- Intergovernmental contracting



CONTINGENCY/ALTERNATIVE SOLUTIONS

Transition to Another Contractor

- Potential Deterioration of Performance/Sabotage
- Intensify Monitoring
- Enforce Liquidated Damages
- Early Termination

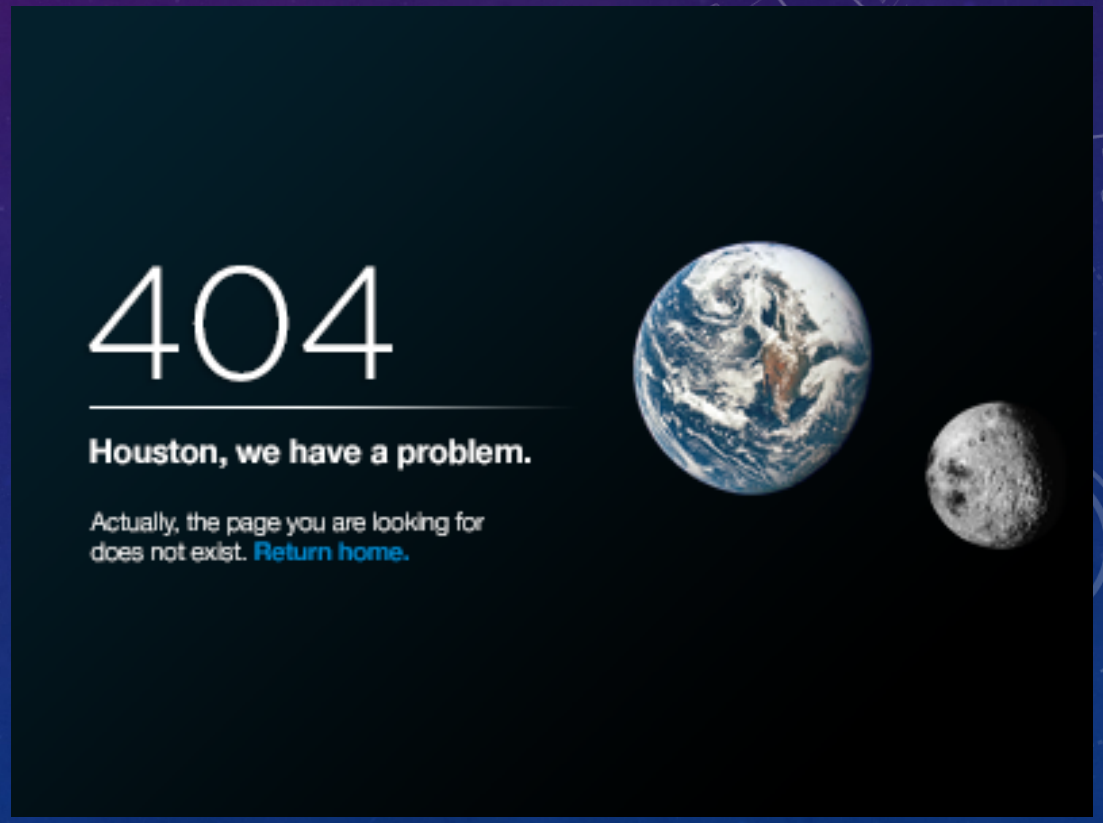


CONSTRUCTION CONTRACTOR DEFAULT

- Agencies should protect their interest by:
  - Fully documenting incidents of default
  - Complying with all notification requirements
  - Cooperating fully with surety's investigation
  - Communicate with surety in writing

CONSTRUCTION CONTRACTOR DEFAULT

- When default is declared, the surety can take any of the following actions:
  - Financing Option - assist contractor
  - Takeover Option - manage through completion
  - Tender Option - replace the contractor
  - Cash Settlement Option - owner completes the project



MISSION COMPLETE

Contract Close Out

Lessons Learned

CONTRACT CLOSE-OUT

- All goods/services received and accepted
- All reports delivered and accepted
- All administrative actions accomplished
- All customer supplied equipment and materials returned
- Warranties/maintenance plans received
- Final payment made

LESSONS LEARNED

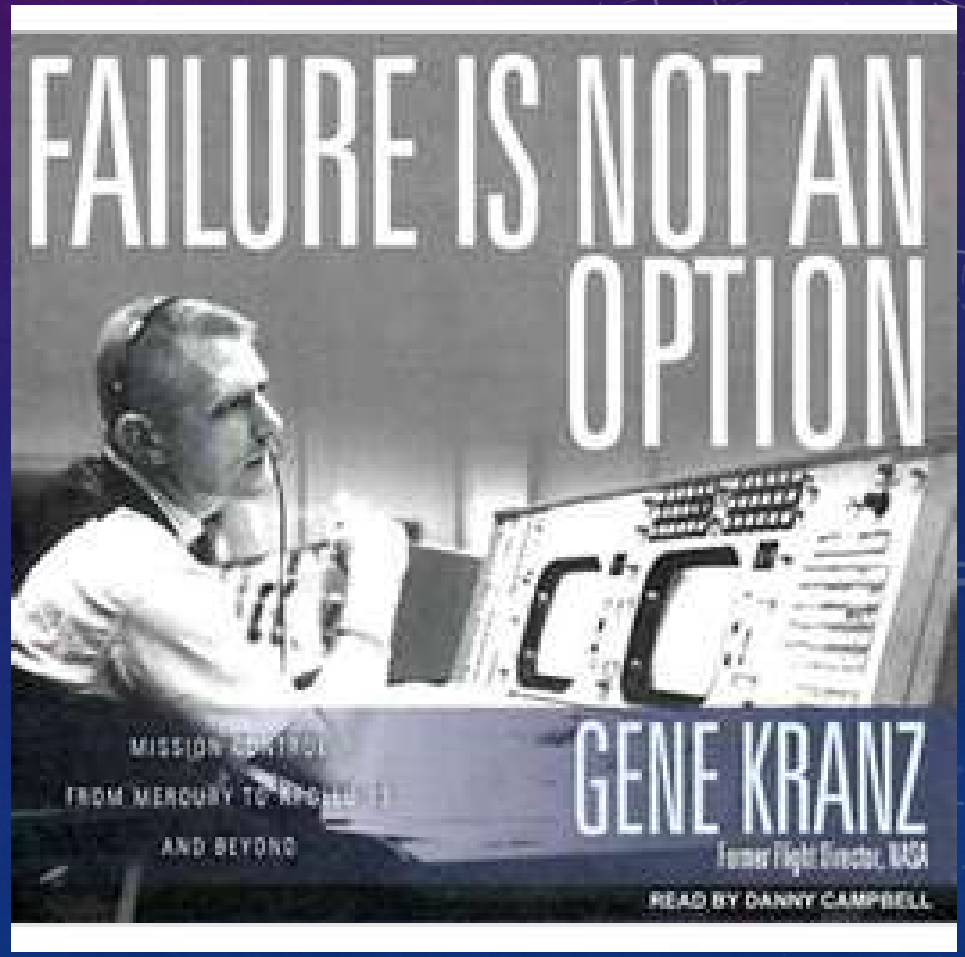
1. Acknowledge the problem and accurately assess its' potential to your mission.
2. Gather and verify "the facts".
3. "Define and confine" the problem.
4. Mobilize your best resources.
5. Celebrate the victories and study the lessons.

Bravo, Eldridge, Leadership Lessons I Learned from Apollo 13

LESSONS LEARNED

Ask yourself:

“What would Gene Kranz do?”



LESSONS LEARNED

The potential for success of any contract increases in direct proportion to the entity's commitment to success from the beginning.

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