

God, Noah, and the Ark Project

An Early Application of Streamlined Management Techniques

LT. COL. JOHN R. LONDON III, USAF

Today's acquisition managers can gain valuable knowledge from case histories of previous acquisition programs, and the Defense Systems Management College makes wide-spread use of such histories in its diverse curriculum. Although most case studies used by today's acquisition students date from the World War II era to the present, valuable lessons can sometimes be gleaned from earlier system acquisition efforts. In fact, the earliest system acquisition in recorded history offers some amazing insight into ancient system development techniques, and also provides a benchmark for maximized streamlined management.

The Plan

The project to build the ark that would withstand the Noachian Deluge was a grand effort upon which the survival of all living species of land-based creatures depended. This article will draw comparisons between the very first major acquisition project and current acquisition practices, and highlight some lessons learned from this development and production effort of perhaps six millennia ago that can still be applicable in today's acquisition environment.

When Noah was 500 years old, the world was in dire straits. Chapter 6 of Genesis provides the Mission Area Assessment as defined by God, the Commander-in-Chief of the Universe (CINCUNIV). In Genesis it says, "And God looked upon the world and saw how degenerate, debased, and vicious



it was; for all humanity had corrupted their way upon the earth and lost their true direction." During this Pre-Milestone 0 phase of His acquisition effort, CINCUNIV recognized the condition of Man as a threat He must deal with, and devised

a plan to do so. To successfully execute this plan, however, would require that the faithful remnant of mankind, along with a remnant of all land-based creatures, be preserved from the awesome destruction that was to come.

London is the Deputy Missile Defense Architect in the Ballistic Missile Defense Organization, Pentagon, Washington, D.C. He is a graduate of APMC 95-2, DSMC.

Source Selection

To accomplish this task of preservation, CINCUNIV would need a highly specialized ocean-going vessel, which formed the basis of his Mission Need Statement. He turned to Noah, the one man on the earth who “found favor in the eyes of the Lord.” His source selection criteria for his contractor is detailed in Genesis 7:1: “...for I have

tor; it says that when CINCUNIV specified the tasks to be performed, “Noah did this; he did all that God commanded him.”

Mission Needs Statement

In Genesis 6:13-14, CINCUNIV provides Noah His Mission Needs Statement: “...I intend to make an end of all flesh, for through men the land is filled with violence; and behold, I will destroy them and the land. Make yourself an ark...” Because of the absolute

Contract Award

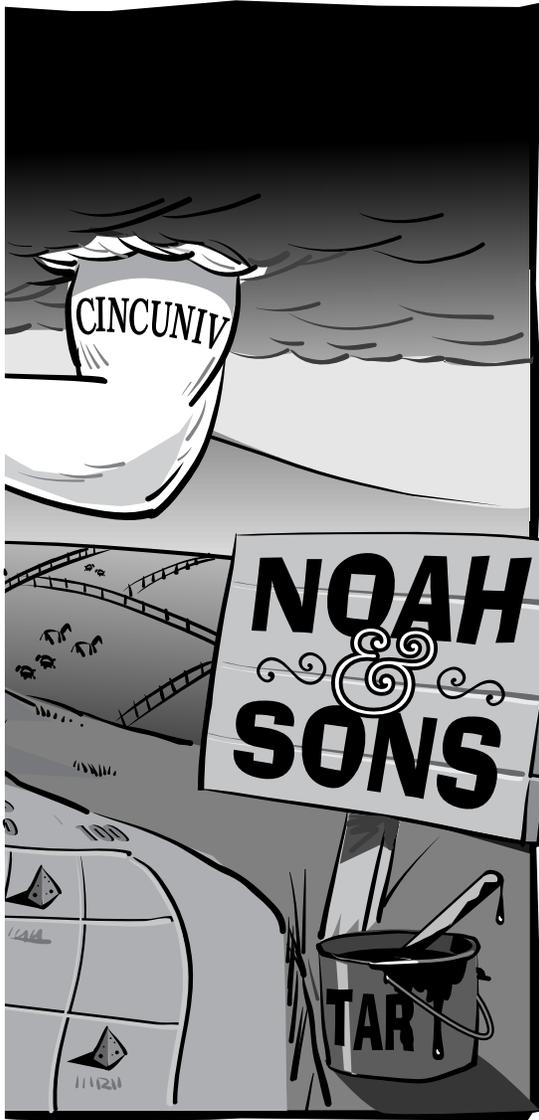
After due consideration, CINCUNIV provided a sole-source contract to His contractor of choice, Noah & Sons, Incorporated, or N&S, Inc. He had to justify this sole-source decision only to Himself, and we can safely assume that this justification was extremely rapid and required no supporting documentation.

Simultaneous with His sole-source contractor selection, CINCUNIV provided the Operational Requirements Document (ORD), the detailed design specifications, incentive negotiation, and exit criteria all at the same time. He moved straight from Milestone O to Milestone III and a production decision, and waived all intermediate milestone decisions, all design reviews, and all test requirements. No Environmental Impact Statement was accomplished for the construction or the disposal site, although CINCUNIV apparently took into account the overall environmental impact of the coming flood.

Contractor Requirements/Negotiations

As the next step, CINCUNIV combined His ORD with portions of the Statement of Work to provide requirements for His contractor: “For Behold, I will bring a flood of waters upon the earth, to destroy all flesh under the heavens...you shall come into the ark, you, and your sons, and your wife, and your sons’ wives with you. And of every living thing of all flesh found on land, you shall bring two of every sort into the ark, to keep them alive with you...”

Never in history did a contractor have a greater performance incentive than what CINCUNIV provided to N&S, Inc., because the survival of mankind and all species of land-based creatures depended on their success. Contract negotiations were very straightforward, since the only alternative N&S, Inc., had other than to accept the contract was utter destruction.



Never in history did a contractor have a greater performance incentive than what CINCUNIV provided to N&S, Inc., because the survival of mankind and all species of land-based creatures depended on their success.

seen you righteous before Me in this generation.” Apparently CINCUNIV had great faith and confidence in His contractor, because Noah had no experience in a project of this nature or magnitude, and consequently there was no past performance information available. However, Genesis 6:22 indicates he was a very responsive contrac-

tor; it says that when CINCUNIV specified the tasks to be performed, “Noah did this; he did all that God commanded him.”

authority that CINCUNIV held, and because of the urgency of the requirement, the acquisition process represented the consummate model of streamlining. Of necessity, CINCUNIV took on the role of the Under Secretary of Defense (Acquisition and Technology), Component Acquisition Executive, Program Executive Officer, program manager, and chief designer all-in-one.

Exit Criteria/Testing

The exit criteria from Milestone III was very simple: the contractor must keep the occupants of the ark alive and well until the flood waters had receded sufficiently for reoccupation of the land. Because He was the source of the detailed design, CINCUNIV could easily waive all design reviews; N&S, Inc., would simply be required to build-to-print.

Testing would have to be waived by necessity, since the lack of a nearby body of water and the sheer size of the ark made testing impractical. Therefore, Developmental Test and Evaluation, Operational Test and Evaluation, Initial Operational Capability, and Full Operational Capability would have to take place simultaneously, and the system would absolutely have to work correctly the first time. Only one production unit would be built, so there were no opportunities for Low Rate Initial Production or learning curve development - N&S, Inc., would have to get it right on the first try, and failure was not an option.

Design Requirements

The ark design requirements CINCUNIV provided to N&S, Inc., were specific: "make yourself an ark of cypress; make in it rooms, stalls, pens, coops, nests, cages, and compartments, and cover it inside and out with bitumen pitch. And this is the way you are to make it: the length of the ark shall be 300 cubits (450 feet), its breadth 50 cubits (75 feet), and its height 30 cubits (45 feet). You shall make a roof and a window – a place for light – to the ark, and finish it a cubit (at least 18 inches) above – and the door of the ark you shall put in the side of it; and you shall make it with lower, second, and third stories (decks)."

The window provided ventilation as well as light, and would become a critical asset when Noah sought to make assessments of the operational environment. Fortunately, CINCUNIV provided N&S, Inc., a great deal of design stability, since there is no indication of any design or requirements

changes once the baseline design was provided.

A Lengthy Period of Performance

Although Phase I and II never formally occurred, because of the enormity of the project CINCUNIV allowed His contractor an exceptionally long period of performance during Phase III. Genesis indicates that from the time that CINCUNIV gave N&S, Inc., the original tasking until the time the ark was required to perform its mission was about 100 years. This is a remarkable testimony of patience and perseverance to both CINCUNIV and to N&S, Inc.

Although there are no indications of schedule slippage or cost overruns, 100 years is still a long time for any customer to wait to find out if the contractor is going to perform, especially when so much hung in the balance. And N&S, Inc., must have had to endure a great deal of ridicule from other contractors and the general public alike for spending 100 years building a ship the size of a cruiser on dry land for no apparent reason.

Incentivizing the Contractor

Once the flood started, N&S, Inc., the contractor team, became N&S, Inc., the operator. By making the builders of the system its operators as well, CINCUNIV incentivized His contractor's performance in a way that no award fee or competition could ever do. The deluge lasted 40 days and nights, and it took a year and 10 days for the waters to recede sufficiently for the contractor team, their wives, and their cargo to disembark.

Contract Completion

The ark came to rest on Mt. Ararat (in present day Turkey). Contract completion occurred after the ark was emptied, and CINCUNIV marked the occasion with the inaugural rainbow. System disposal apparently consisted of abandoning the vessel in place, and archaeologists continue to search for remains of the ark to this day.



Mr. Clinton Osborne, Chief of Maintenance, Division of College Administration and Services since 9 August, 1987, retired with 24 years of federal service, effective January 3, 1996. "Ozzie" plans to continue residing in King George, Virginia, and pursue his hobbies of hunting, crabbing, boating, and motorcycling.

The ark project represents an example of streamlined management and system acquisition that will not likely be repeated. However, we can learn from this case study the benefits of unified and stable leadership throughout the acquisition process, tailored and streamlined contractual and documentation requirements, clear and stable design requirements, and a highly motivated and incentivized contractor team. Despite the lack of Total Quality Management, Integrated Product Teams, or Computer Aided Design/Computer Aided Manufacturing, N&S, Inc., delivered a product that performed to specifications.

What message does this ancient application of streamlined management techniques have for us today? The answer lies in one word – results. We must not lose sight of the fact that in the acquisition business, the name of the game is results, and the processes we develop to get us there should always be value added to the effort.