NASA Contracting Turn

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\*\*Contracts Bad\*\*

Contracts Bad – General

Contracting makes NASA politically dependent and ineffective at exploration

Mahler 10 (Julianne, public&international affairs@George Mason U, April 16, <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1642614>, p. 2-3, accessed: 11 July 2011, JT)

The images of Shuttle launches and earthrise over the rim of the moon are iconic representations of American strength, technical capacity, and of the future of humankind. Yet NASA itself, the agency responsible for these images, is chronically underfunded, hounded by low-tech glitches, buffeted by changes in administrative direction, and currently without a clear next mission (NPR 2010, Achenbach 2010). Most recently, President Obama has proposed the cancellation of the Constellation program designed to create a permanent human presence on the moon in preparation for crewed Mars exploration. In its stead, the Administration advocates a longer time line toward a ―flexible path‖ to other objectives within the solar system including eventually the moon, asteroids, and Mars depending on technical innovations and the availability of funding. In addition, it has turned transportation to the Space Station in low earth orbit over to private aerospace firms. Congressional members whose districts are affected, former astronauts and some NASA administrators have been outspoken critics of these changes (Achenbach 2010, NPR 2010, Clark 2010, Cowling 2010). Altogether these events demonstrate that though the image of the agency is of power and progress, the agency itself is not among the powerful, almost autonomous national institutions able to ―bring their own political legitimacy to bear on the very laws that give them power‖ (Carpenter 2001 17). Their success in shaping their own missions is mixed and varies greatly over their history. This lack of autonomy is particularly puzzling given that the agency has many of the hallmarks that have been associated with powerful agencies or agencies at an influential stage of their history. After briefly considering these characteristics, I examine the agency’s heavy reliance on contracting as a possible explanation for the uncertain direction and changes in course that characterize its recent history. Contracting for vehicles and later for program management, project design, launch services has a complex history at the agency going back to the earliest days of NASA’s precursor, the National Advisory Committee for Aeronautics. Over time the agency has turned over greater responsibilities for project design and program management and even program definition to contractors until it was said, ―People used to come to NASA for information, now they come for a contract" (NASA 1995, 10). Might NASA’s very attractiveness as a source of jobs and contracts have contributed to its political dependencies? In a larger sense, what light does the pattern of enlarging the scope of contracts shed on the evolution of this form of program development and procurement in government? What can we learn about the evolution of contracting as an ―appropriate‖ institutional form from NASA’s experiences?

Contracts Bad – Innovation

NASA has become dependent on contracts for development, but the companies fail to innovate new designs leaving NASA helpless

Mahler 11 (Julianne, public&international affairs@George Mason U, June 4, <http://www.maxwell.syr.edu/uploadedFiles/conferences/pmrc/Files/Mahler_Agency%20Autonomy%20and%20Contracting%20NASA%20and%20the%20Aerospace%20Industry.pdf>, p. 2, accessed: 11 July 2011, JT)

The new plans for fostering the development of commercial spacecraft for shuttling to low earth orbit do however support findings about the state of the U.S. aerospace industry released in December of 2009 by the White House Office of Space and Technology Policy. They reported to Congress that the U.S. aerospace industry was in decline with lower demand, fewer launches and more competition from foreign industry. In addition, they note that none of the research and development programs currently supported by government of industry ― are expected to develop fundamentally new propulsion concepts or technologies‖ (Office of Science and Technology Policy 2009, 11). This brief overview suggests that not only has NASA become more dependent upon contractors to provide funds for development and production of projects that the agency, wholly or with reservations, has agreed to undertake, but it has also had less control over the design of these projects. In several cases in the past two decades, NASA provided design contracts to jump-start industry interest in a new vehicle, but it also had to accept a back-seat to industry design teams. Current awards and seed money programs go to industry and academia for innovative designs, including the Innovative Partnerships Program, the Innovation Incubator and Technology Infusion programs, the Commercial Transportation Services program and its Commercial Crew and Cargo Program. These illustrate NASA’s efforts to capitalize on industry developments that support the agency’s science and exploration goals while proving profitable to industry. This is not necessarily an undesirable strategy, but it does indicate a shift in the locus of control for NASA contracts. Partnerships, rather than direct NASA-led contract or ―weapons systems‖ procurement, are now the important contract models.

Contracts Bad – Mission Control

Pressuring NASA to contract out its work kills its effectiveness as a space agency

Mahler 11 (Julianne, public&international affairs@George Mason U, June 4, <http://www.maxwell.syr.edu/uploadedFiles/conferences/pmrc/Files/Mahler_Agency%20Autonomy%20and%20Contracting%20NASA%20and%20the%20Aerospace%20Industry.pdf>, p. 2, accessed: 11 July 2011, JT)

Altogether these events call into question the image of the agency as powerful and autonomous. How can the contrast between the public image of the agency and its political and bureaucrat realities be accounted for? A number of explanations have been advanced. The enormous cost of the programs requires the agency to justify its existence on other than scientific terms. Thus the agency has been forced to operate under a shifting array of externally defined missions and purposes and to compromise its science and engineering objectives to find enough support to survive. These missions include preserving the health of the aerospace industry for economic and military purposes, creating jobs for workers and for new generations of scientists and engineers, and maintaining national security and national prestige (Kay 2005). Alternatively, NASA is seen as being more autonomous than it appears by strategically juggling its missions to maximize external support to acquire resources for its primary objective—the preservation of a human space exploration program (Handberg 2003). To this somewhat overlapping set of explanations I add that there have always been pressures on NASA to support the US aerospace industry sector and to provide opportunities for contracts for firms across a wide band of congressional districts limits. Over time NASA has adopted more inclusive and extensive forms of contracting which have reduce its ability to design programs and vehicles and to establish its own mission trajectory. Thus, might NASA’s very attractiveness as a source of jobs and contracts have contributed to its political dependencies? What impact has aerospace contracting had on NASA’s ability to define its own goals and missions?

Contracting makes NASA unable to control its own agenda – it becomes politicized and inefficient

Mahler 11 (Julianne, public&international affairs@George Mason U, June 4, <http://www.maxwell.syr.edu/uploadedFiles/conferences/pmrc/Files/Mahler_Agency%20Autonomy%20and%20Contracting%20NASA%20and%20the%20Aerospace%20Industry.pdf>, p. 14, accessed: 11 July 2011, JT)

NASA must have one of the most educated and sophisticated constituencies of scientists in academia and industry, well able to articulate their views. Their work has concrete value for these constituents as scientific advances and high technology spinoffs. In addition, NASA programs fund research activities of scientists at universities and scientific institutions. A frequent justification by NASA researchers for their programs is to support science training and education in the U.S. and to ensure jobs and careers in advanced science fields. The aerospace industry also has a major stake in NASA programs as contractors and, as noted above, partners. The industry stake in the agency can be seen in the record of NASA’s procurements. Industry procurements rise steadily over time. Other constituencies arise from the military and foreign policy communities because of the importance of accomplishments in space to national prestige and national security (Kay 2005). This may be a double-edged advantage, however. The argument examined here is that military and aerospace interests shape the trajectory of missions in a kind of iron triangle relationship that results in a new form of goal displacement for the agency. However, the data also show that funding for business procurement has declined as a proportion of NASA payments, while educational and non-profit research organizations, such as observatories, and the Jet Propulsion Laboratory, a NASA center managed by California Institute of Technology, have gained as a proportion of procurements. This finding is consistent with the idea that science goals, originating in academia with or without NASA direction, are gaining in influence over NASA.

Contracts Bad – Mission Control

Contracting encourages government oversight making NASA lose control of its mission directions, destroying its ability to implement innovative programs

Mahler 11 (Julianne, public&international affairs@George Mason U, June 4, <http://www.maxwell.syr.edu/uploadedFiles/conferences/pmrc/Files/Mahler_Agency%20Autonomy%20and%20Contracting%20NASA%20and%20the%20Aerospace%20Industry.pdf>, p. 8, accessed: 11 July 2011, JT)

How is this contracting trend related to NASA’s power as an agency? The hypothesis advanced here is that there is a relationship between the growing dependency on contractors and a decline in agency power. Even though by some standards the agency is a large and powerful one, its actual autonomy and program control has been reduced over time as the health of the aerospace industry drives congressional and administration decisions about budgets and mission directions. In particular, we would expect that contracts would take up a larger proportion of budgets over time. Similarly earmarks should also grow as Congress seeks to use NASA programs to support local industrial and educational institutions. Thus, in spite of other standard indicators of agency power based on public opinion, agency size, cohesion, and leadership, NASA would lose autonomy even as it gains or maintains funding. Such a relationship could call into question some of the ways in which we think about the power of agencies linked to military and industrial development and contracting. The organizational, political and institutional factors that allow agencies to develop the capacity for some degree of self-direction have been the controversial subject of a number of recent investigations of the administrative development of important public agencies from the Department of Agriculture to the U.S. Army (Carpenter 2001, Amenta et al. 1998, Skocpol 1992). While the idea of agency autonomy is double-edged, research on administrative development challenges the assumptions of congressional and executive oversight. This research illustrates the characteristics that enable agencies to shape their mission and bring about progressive technical and social policy changes, from scientific agriculture, to social welfare policy. In this case, the capacity of NASA scientists, engineers and their colleagues in other scientific institutions to shape the research and exploration agendas for the agency is at stake. Many think principally of NASA’s human crewed space exploration missions, but new understandings of the origins of the solar system and the cosmos, earth imaging and environmental monitoring as well as the scientific and technological developments that accompany and make these projects possible are all potentially part of NASA’s mission and subject to its fate.

Contracts Bad – Resource Diversion

Contracting diverts the majority of NASA’s resources away from scientific or technological issues

Mahler 11 (Julianne, public&international affairs@George Mason U, June 4, <http://www.maxwell.syr.edu/uploadedFiles/conferences/pmrc/Files/Mahler_Agency%20Autonomy%20and%20Contracting%20NASA%20and%20the%20Aerospace%20Industry.pdf>, p. 20-21, accessed: 11 July 2011, JT)

NASA exhibits some of the characteristics of a powerful agency. It has an expansive mission, by design, because its architects did not know ―what we were getting into‖ (Shapiro 2011). Its work is in the realm of research and development and its workforce is composed of prestigious scientific professionals. It has a relatively good reputation in the public mind and has had ―in house‖ leadership at the center level if not at headquarters. It has strong esprit de corps among current workforce, though contract management is not the work envisioned by the old hands. But its current ambiguous mission trajectory, its stagnant budgets, eroded further by high levels of earmarks, and the uncertain congressional and presidential support all signal that it is not among the powerful, autonomous bureaus able to shape their own future. Thus the measures of agency power tracked here provide some indicators associated with power, but important measures of constituency support in budgets, along with the contracting history, point to diminished autonomy. Its most loyal constituencies appear to lie in the aerospace contractors and space and earth science communities. It does not seem to be the case, however, that agency programs are directly dictated by the interests of contractors or the congressional members whose constituencies are linked to the interests of contractors. Often, especially in recent decades, these hoped-for contract developments have been disappointed, usually as a result of a combination of contractor’s technical or financial considerations or congressional and presidential budget decisions. However, it does appear that NASA’s missions have been influenced by the needs of the aerospace industry. This is clear from early statements at NASA’s founding to current reports such the most recent Augustine Commission and the White House Office of Space and Technology Policy. Though the rise in contract funding has not kept pace with NASA budgets, the level of contracts constitutes 70-80% of all NASA procurements and the contract workforce dwarfs civil service personnel. And NASA missions have long been shaped by the congressional and presidential objectives to maintain national prestige and scientific reputation, as well as for economic, military and national security purposes. In sum NASA appears to be an agent of multiple principles, inside and outside of government, that alternatively and with little long term planned goal-setting, apply the agency’s considerable talents to a variety of ends that in some cases only partially correspond to the projects the agency would pursue. This suggests a new form of goal displacement linked to aerospace industry contracting in particular, but perhaps also to the academic scientific and engineering communities. The agency created to identify and solve scientific and technological problems of understanding and exploring the cosmos has become the vehicle for supporting a wide variety of economic and national security objectives. This is possible because of the evolution from in-house design and testing to the more extensive forms of project contracting and partnerships. This development is not wholly divorced from the original conditions under with the agency was founded, but it does affect the capacity of the agency to define national goals for space research.

Mission Success KT Public Support

Clear mission directions are key to public and political support of NASA

Mahler 11 (Julianne, public&international affairs@George Mason U, June 4, <http://www.maxwell.syr.edu/uploadedFiles/conferences/pmrc/Files/Mahler_Agency%20Autonomy%20and%20Contracting%20NASA%20and%20the%20Aerospace%20Industry.pdf>, p. 10, accessed: 11 July 2011, JT)

NASA’s was created amid much fanfare in 1958 by the National Aeronautics and Space Act at the height of concern over the space race. The agency was re-purposed from the National Advisory Committee on Aeronautics, and its mission changed from generic research and aeronautical advice to industry to national aerospace research and development. Thus, while it was not created anew under a new mission, its mission was changed from advice to development, that is, concerned with the creation of new projects and programs rather than regulation or government infrastructure maintenance. It provides a service and products, albeit some that are unrecognized by the public. The value of crewed space exploration, now on hold, for national prestige and, earlier, for military objectives has attracted more public attention and offers a more obvious service to the state than its researches into astrobiology or exoplanets. Its role in climate research is also well known, though more controversial. Its mission is also expandable, that is, not a simply concluded task with an obvious termination, though at present the definition of that mission is under debate. Thus perhaps the issue is not so much whether the mission is expandable as whether it is well defined in the public and political mind. Public opinion about the mission and the agency is also generally positive. Gallup Polls show a majority think the costs of NASA programs are justified and for most of the polls, think that spending should be increased rather than reduced (Jones 2009). Roper obtained reasonably similar results even in debt-conscious 2010 when it found that 49% of American thought that the money spent on the Shuttle had been worthwhile (Roper 2010).

Earmarks Bad – Budget

Earmarks divert NASA’s resources, killing their ability to successfully manage projects

Mahler 11 (Julianne, public and international affairs@George Mason U, June 4, <http://www.maxwell.syr.edu/uploadedFiles/conferences/pmrc/Files/Mahler_Agency%20Autonomy%20and%20Contracting%20NASA%20and%20the%20Aerospace%20Industry.pdf>, p. 10, accessed: 11 July 2011, JT)

The modest budget growth also includes an enormous growth in earmarks, especially since 1999. In 1997 NASA earmarks totaled around 65 million, while by 2000 they had grown to 365 million, much of it going to non-space related projects, museums and university facilities (Lawler 1999). This figure grew in 2006 to $568.2 million, which was 3.4% of NASA budget (NASA-IG 2008). These earmarks have grown in number and size and have been characterized as damaging to NASA’s ability to establish control over projects. ―Many earmarks in NASA’s budget have little to do with the agency’s mission in scientific research, technology development, and exploration….Some especially damaging earmarks divert funds from critical NASA needs and reverse good cost management decisions at NASA‖ (United States Budget for Fiscal Year 2003, 325) Conley and Cobb demonstrate that with the notable exceptions of the first three years of the Apollo program, and the year of the Challenger accident, congressional appropriations have provided less funding than presidential requests. They note, ―In inflation-adjusted dollars, the [cuts] range from a few million to $4 billion over the agency’s lifespan….despite the articulation of clear-cut policies by Presidents George H.W. Bush and George W. Bush‖ (2010, 18). Their analysis indicates that the size of the difference between congressional and presidential funding have tracked with such conditions as competition from other nations for prestigious space achievements, the cold war, the two shuttle accidents and national debt and inflation.

Contracts Fail

Contracting empirically fails to create innovation and exploration

Dinerman 6 (Taylor, author and journalist in New York City, The Space Review, February 13, <http://www.thespacereview.com/article/556/1>, accessed: 11 July 2011, JT)

The past efforts of America’s space agency to develop a viable method of harnessing the undisputed power of free enterprise have, by general consensus, failed. The reasons include the fact that NASA is a government agency and thus subject to strong political pressure, as well as to sets of regulations that can make a brave man’s knees knock. Its mission is an exploration and research effort designed to fulfill several unarticulated goals, from national prestige to nurturing a cadre of scientists and engineers who have the skills and experience needed to work on any emergency military projects. Despite past failures, NASA Administrator Mike Griffin has ordered his agency to try again. This time it seems they may have done their homework, or at least it looks that way at first glance. The Commercial Orbital Transportation System (COTS) demonstration program will make $500 million dollars available through FY 2009 for companies to prove they can deliver pressurized and unpressurized cargo to the International Space Station (ISS) and either dispose of the system or return the system to Earth. If a company can safely return pressurized cargo to Earth, they will then be allowed to demonstrate that they can be trusted with transporting crews as well. They are asking companies to do an awful lot for the $500 million, and in some ways this is structured the same way the disastrous X-33 program was. In 1996 the government put up a billion dollars for Lockheed Martin to build a demonstrator that would lead to a commercial launch vehicle to be called the VentureStar. Everything more than a billion was supposed to be paid for by Lockheed. This was to be the great future model for public-private partnerships and was part of the reason for Bill Clinton’s claim about NASA being “the poster child for ‘reinventing government’.”

\*\*Contracts Good\*\*

Contracts Good – Private Sector Growth

Contracting services is key to growth in the private space sector

Hudgins 4 (Edward, director of The Objectivist Center, January 28, <http://www.cato.org/pub_display.php?pub_id=2514>, accessed: 11 July 2011, JT)

Thus, the shuttle should be given away to private owners. The United Space Alliance, the joint venture between Boeing and Lockheed-Martin that refurbishes the shuttle between flights, would be an obvious candidate. Let a private owner fly it for paying customers--including NASA, if necessary -- if it is still worth flying. NASA also should give up the money-draining space station, and sooner rather than later. The station might be turned over to international partners or, better still, to the mostly private Russian rocket company, Energia -- and the Western investors who were in the process of commercializing and privatizing the Mir space station before the Russian government brought it down for political reasons. If need be, NASA can be a rent-paying station tenant. NASA centers that drive up its overall budget but do not directly contribute to its mission should be shut down. If the government wants to continue satellite studies of the climate and resources or other such functions, they could be turned over to other agencies, such as EPA and Interior Department. NASA and the rest of the government should contract for launch services with private companies, which would handle transportation to and from low Earth orbit. Contracting with private pilots with private planes is what the Post Office did in the 1920s and 1930s, which helped the emerging civil aviation sector. Further, to facilitate a strong private space sector, the government needs to further deregulate launches, export licensing and remove other barriers to entrepreneurs.

Contracts Good – Other Programs

Contracting programs to private companies allows NASA to focus on more productive innovations

Borenstein & Chang 10 (Seth, science writer@AP, Alice, writer@Huffington Post, January 31, <http://www.huffingtonpost.com/2010/01/31/nasa-to-outsource-space-t_n_443549.html>, accessed: 11 July 2011, JT)

WASHINGTON — Getting to space is about to be outsourced. The Obama administration on Monday will propose in its new budget spending billions of dollars to encourage private companies to build, launch and operate spacecraft for NASA and others. Uncle Sam would buy its astronauts a ride into space just like hopping in a taxi. The idea is that getting astronauts into orbit, which NASA has been doing for 49 years, is getting to be so old hat that someone other than the government can do it. It's no longer really the Right Stuff. Going private would free the space agency to do other things, such as explore beyond Earth's orbit, do more research and study the Earth with better satellites. And it would spur a new generation of private companies – even some with Internet roots – to innovate.

Contracts Good – Economy

NASA contracts are key to technological growth in the private sector which is key to the economy

Dethloff 93 (Henry, History@Texas A&M, Suddenly Tomorrow Came…, p. 137, http://www.google.com/url?sa=t&source=web&cd=4&ved=0CDMQFjAD&url=http%3A%2F%2Fwww.jsc.nasa.gov%2Fhistory%2Fsuddenly\_tomorrow%2Fchapters%2FChpt8.pdf&ei=locbTpydOfDWiAKk3\_HRBQ&usg=AFQjCNHC4UdXc2yzgQKuWVC3RbQ715euAg&sig2=wEyCRaEEiuovBakRT7klEQ: 11 July 2011, JT)

Through its NASA contracts, the United States Government mobilized a large segment of American industry comparable to that ordinarily achieved only during the exigencies of war. Space, and more specifically the Apollo lunar program, required a massive effort by a fledgling aerospace industry still struggling to find its own identity. NASA grew massively in size and changed markedly in its configuration from a NACA like and largely passive research organization into a research/development and mission oriented agency whose primary business became project management and systems engineering. NASA engineers, trained and with experience in the laboratory and test facility, became managers of people. Whereas in war the government generally mobilized the Nation’s resources through conscription, regimentation, and regulation, NASA mobilized the aerospace industry through a contractual relationship. Arnold S. Levine in Managing NASA in the Apollo Era attributes the enormous increase in government contracting after World War II to the basic virtues of contracting out to the private sector, the limitations of formal advertising, and the demand for special skills in the management and integration of complex weapons systems. Contracting allowed the government to tap the technical experience and capabilities available in the private sector, which was not bound by civil service hiring and retention regulations—albeit labor legislation and union contracts certainly had an effect. Moreover, contracting allowed a very real flexibility in work force and budget expenditures.1 While the government required it, the reality was that through contracting, NASA built a strong and diverse supporting political framework for government-funded space-related programs, and concurrently helped develop a broad-based technological strength throughout the national economy.

NASA contracts are key to California’s economy

Messier 11 (Doug, communications expert, March 31, <http://www.parabolicarc.com/2011/03/31/nasas-contribution-californias-economy-177-billion/>, accessed: 11 July 2011, JT)

NASA contributes $3.6 billion in direct contracts and an additional $14.1 billion in in-direct jobs to the Golden State through its three field centers, according to the California Space Authority. The agency directly employs more than 7,100 with an annual payroll in excess of $900 million. The statistics are included in a points paper on NASA that CSA issued for 2011 California Space Week Washington DC, a lobbying effort taking place on Capitol Hill this week. The paper is designed to instruct participants in what to say when visiting Congressional offices. The document urges full funding for NASA at the proposed $18.7 billion level. It also recommends full support for NASA’s HLV, Multiply-Purpose Crew Vehicle (Orion), CCDev and COTS programs in accordance with the authorization act signed into law last year. CSA also opposes a proposed $298 million cut in the agency’s operations budget to pay for police salaries.

NASA contracts are key to the recovery of New Orleans

USA Today 7 (December 24, <http://www.usatoday.com/tech/science/space/2007-12-24-nasa-new-orleans_N.htm>, accessed: 11 July 2011, JT)

NEW ORLEANS (AP) — The route to the moon and perhaps to Mars now goes through New Orleans — and the detour couldn't come at a better time in the city's struggle to rebuild its shattered economy after Hurricane Katrina. With thousands of houses still in ruins and its population reduced by almost 170,000, a boost is on the way for New Orleans in the form of high-wage jobs and contracts for next-generation space systems at NASA's Michoud Assembly Facility. Before the storm, New Orleans' economy thrived on low-wage tourism. But the $156 million payroll at Michoud — some salaries are in the hundreds of thousands of dollars — generates paychecks significantly above the city's median annual income of about $27,000.

Contracts Good – Innovation

NASA contractors increase the technological and engineering innovation of the space program

Gill & Vaughan 8 (Paul, manager@ NASA Technical Standards Program, William, Research@U of Alabama, January 11, <http://www.consortiuminfo.org/linked/AIAA2008RenoTechnicalExcellenceFinal2.pdf>, accessed: 12 July 2011, JT)

Enhancing engineering capabilities and technical excellence is an important value of technical standards, especially when coupled with allied information such as engineering lessons learned and experiences with use of the standard. Such is the thrust of the NASA Technical Standards Program. This thrust is being reinforced and expanded based on feedbacks from the engineering staff of NASA and its supporting contractors. This integration is one step toward the goal of significantly enhancing the engineering capabilities and technical excellence of NASA and the aerospace industry in order to meet the future demands for timely, productive, and reliable space systems, plus contributing to improved costs. (Gill and Vaughan, 2003)