

# The Journal of Values-Based Leadership

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Volume 1  
Issue 1 *Winter/Spring 2008*

Article 8

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January 2008

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### Recommended Citation

Cameron, Kim S. (2008) "Positively Deviant Organizational Performance and the Role of Leadership Values," *The Journal of Values-Based Leadership*: Vol. 1 : Iss. 1 , Article 8.

Available at: <http://scholar.valpo.edu/jvbl/vol1/iss1/8>

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***This article explains why the clean up at Rocky Flats was extraordinarily successful. Rocky Flats was the most contaminated nuclear plant in the country, with extensive employee dissension. It was estimated that it would take 70 years and \$36 billion to clean up and close the facility. In reality, the task was accomplished in 10 years with \$6 billion. The leaders of the clean-up took a distinctive “abundance approach” to the task. These leaders focused on identifying and building on sources of strength, resilience, and vitality, rather than simply solving problems and overcoming difficulties. Ten specific leadership principles responsible for the Rocky Flats turnaround are presented.***

**KIM S. CAMERON, PH.D., ANN ARBOR, MICHIGAN**

## **Positively Deviant Organizational Performance and the Role of Leadership Values**

Positive Organizational Scholarship (POS) is a relatively new development in organizational studies, having formally begun with a 2003 edited collection of articles examining the dynamics that are typically described by words such as excellence, thriving, flourishing, abundance, resilience, and virtuousness. POS represents the study of extraordinary performance, the best of the human condition, and the highest levels of achievement to which human beings aspire (Cameron, Dutton, & Quinn, 2003). The creation of the label POS was a deliberate one, with each element of the acronym intended to signify an important element of the perspective. “Positive” refers to an affirmative bias, “organizational” to the context in which these phenomena occur, and “scholarship” to the rigorous, theoretical, and empirically-based foundation for relationships. While the terms “organizational” and “scholarship” have not created controversy, the same cannot be said for the concept of “positive.” The term is accused of a potentially restrictive connotation and values bias (George, 2004; Fineman, 2006) and has been criticized as implying that most organizational science is negative, that an ethnocentric bias is being represented, or that a narrow moral agenda is being pursued. As used in POS, positive refers to that which fosters, or results in, flourishing (Fredrickson & Losada, 2005), thriving (Spreitzer, et al., 2005), optimal functioning (Keyes, 2002), capacity-building (Dutton & Glynn, 2007), or the best of the human condition (Cameron 2003). The concept of positive in POS is not restricted to mere pleasantness or happiness since unpleasant and oppositional factors are frequently prerequisites for positive attributes and positive performance. Positive virtues such as courage, resilience, and forgiveness, for example, are relevant only in the presence of negative events.

To illustrate the uniqueness and importance of this positive perspective, this paper examines positively deviant organizational performance – that is, the achievement of extraordinary success well beyond the expectations of almost any outside observer.

It recounts the story of an organization that reached a level of performance that was considered impossible, so that adjectives such as spectacular, extraordinary, remarkable, and astonishing are apt descriptors. This account, based on Cameron and Lavine (2006), describes how a single organization experienced a devastating loss – the loss of mission and subsequent languishing performance – and then, despite its problematic circumstances, achieved astounding success. The central role that leadership values played in achieving this extraordinary level of performance is the primary area of focus.

## Rocky Flats

On March 23, 1951, the Atomic Energy Commission publicly announced that the nation would build a top-secret nuclear weapons plant in a rocky, but flat, ranching area 16 miles northwest of downtown Denver, located at the base of the beautiful Flatirons on the eastern slope of the Rocky Mountains. The site began operation in 1953 and functioned until 1989 when it was abruptly closed after a raid by the FBI. Rocky Flats was owned by the U.S. Department of Energy (DOE) and managed by a series of weapons contractors during its years of active operation: Dow Chemical (1952 to 1975), Rockwell International (1975 to 1990), EG&G (1990 to 1995). Since 1995, the site was by Kaiser-Hill, a joint venture between ICF Kaiser Engineers and an environmental engineering firm, CH2MHill. After IFC Kaiser filed for bankruptcy a year after the joint venture, CH2MHill operated the site single-handedly.

## Challenges

Kaiser Hill was awarded a contract to clean up and decommission the Rocky Flats nuclear production facility, but the task was ominous. First, this project represented the first clean-up and closure of a nuclear weapons production facility in the world. Because the half-life of radioactive plutonium is more than 24,000 years, the clean-up path was not obvious. No one in the industry knew how to accomplish this task. No one had ever taken down a plutonium production facility before.

Second, the majority of the workforce on site was represented by three unions – steelworkers, building trades, and security guards – who had a history of antagonistic relationships with the management of the previous contracting firms. Grievances were common, expectations of life-long employment were the norm, and a high degree of pride existed among the workforce regarding the skilled work they performed. Changing procedures was likely to foster serious resistance among a proud, closely-knit workforce, not to mention strong resistance likely to be encountered by altering the entire organization’s mission.

Third, the site included a 385-acre production area surrounded by more than 6,000 acres of open space called the “buffer zone.” During its history of operation, the production areas were surrounded by three razor wire fences, prison like watch towers, and armed security guards to prevent suicide mission entrants or other subversives. Several buildings had installed inhibitors to helicopter-landing to prevent air attack. Visitors entering the facility passed through four security stations and received a “Q” clearance (requiring a full investigation of at least the past 10 years of

their personal lives). A culture of secrecy, protectionism, and concealment was dominant at the facility.

Fourth, the site was one of the most polluted nuclear facilities in America. More than 21 tons of weapons-grade nuclear material was present. At least 100 tons of high content plutonium residues existed on the site with no treatment or disposal path. 30,000 liters of plutonium and enriched uranium solutions were stored in tanks and pipes, some of them leaking, with some being buried in unmarked locations. More than 500,000 cubic meters of low-level radioactive waste and nearly 15,000 cubic meters of transuranic waste were stored in 39,500 containers. A special ABC *Nightline* television program rated two Rocky Flats buildings as “the most dangerous buildings in America” due to their levels of radioactive pollution. Three others were ranked in the top ten. More than a dozen rooms were labeled “infinity rooms” because the levels of radioactivity registered beyond infinity on the metering devices. Contamination existed in walls, floors, ceilings, duct work, surrounding soil, and, potentially, ground water. The prospect of cleaning up this site in any reasonable amount of time was highly improbable.

Fifth, long running battles had been fought historically between Rocky Flats’ contractors and government regulatory agencies, environmental groups, community representatives, and concerned citizens. Broad public sentiment existed that the facility was a danger to surrounding communities, and countless demonstrations by numerous groups had been staged from the 1960s through the 1980s in protest of nuclear proliferation, pollution, secrecy, and environmental endangerment. A demonstration involving more than 10,000 people occurred in 1969, for example, after a fire exposed the possibility of plutonium residues escaping into a wide area of surrounding terrain. The facility was almost in a state of siege by outside agencies and a concerned citizenry.

Sixth, the facility was raided by the FBI in 1989 and shut down on the spot. For years, Rocky Flats had argued that it was regulated by the Atomic Energy Commission, and therefore, the project was not subject to the inspection and oversight of the Environmental Protection Agency (EPA). However, litigation and Congressional pressure led to the EPA obtaining partial jurisdiction over Rocky Flats, and a surprise raid by the FBI in 1989 led to an immediate shut down. In the public’s eye, employees were transformed overnight from patriotic heroes, engaged in winning the Cold War, to polluting criminals, and they were completely barred from accomplishing the organization’s production mission. For six years – 1989 to 1995 – essentially no work was accomplished at the facility as employees were waiting for production to resume but with no authorization to do so. In 1992, President George H. W. Bush announced the permanent closure of the facility as a result of the abandonment of the W-88 nuclear warhead program, but no action was taken to change the work scope from what had been outlined since 1989. Hence, the workforce was without a mission, thwarted in their desires to restart the production facility, and closely scrutinized by regulatory agencies who required large numbers of environment reports and safety studies. Employees produced documents but were absent any meaningful work objectives.

## The Contract

The Department of Energy (DOE) awarded a contract to clean-up the site to Kaiser-Hill in 1995 after a competitive bidding process. This was the first performance-based contract issued by the Department of Energy to encourage work toward closure rather than to manage on-going operations. That is, for the first time, the contract specified that payment would be made only if work was accomplished, a dramatic change in government procedures. This first contract ran for five years, allowing DOE an opportunity to evaluate Kaiser-Hill's performance. In 2000, Kaiser-Hill was re-awarded a closure contract – in which the goal of closing the facility was added to the goal of cleaning it up – on a “no-bid” basis as a result of its performance in the previous five years. That contract was to extend through the end of 2006.

In 1995, the U.S. Department of Energy Office of Environmental Management issued a Baseline Environmental Management Report, entitled *Estimating the Cold War Mortgage*, which provided a detailed estimate for the cost of closing facilities involved in Cold War weapons research, production, and storage. This analysis produced an estimate of a minimum of 70 years and a cost of more than \$36 billion to close and clean-up the Rocky Flats facility. Completion was estimated, optimistically, to occur in the year 2065. One high ranking DOE official commented that the 70 year estimate was a gross underestimate and predicted that the more realistic number was 200 years to completion.

## Extraordinary Results

In light of these ominous challenges, the prospects of a successful closure and clean-up of Rocky Flats in the 70 year time frame were actually quite optimistic. Yet, what makes this story worth telling is that the entire project was completed 60 years early and at almost \$30 billion savings in taxpayer funds. This paper highlights the key leadership values that explain how this remarkable achievement was accomplished.

As the world's first nuclear production facility to be cleaned up, Rocky Flats represents a one-of-a-kind example of extraordinary success. The facility was closed, cleaned-up, and will be developed as a wildlife refuge in a fraction of the estimated time. All 800 buildings were demolished, all surface level waste removed, and soil and water remediated to better-than initial federally mandated standards by the end of October 2005. The estimated cost for the project is \$3.9 billion (approximately \$7 billion in total, including the years before Kaiser-Hill took over the project), a small fraction of the federally budgeted amount. The entire site is being transformed into a Front Range wildlife refuge decades sooner than even the most optimistic estimates being touted as recently as 2003.

Many critics from citizen action groups, the environmental community, local and state governments, city mayors, and regulating agencies transitioned from protestors and adversaries to being advocates, lobbyists, and partners. Labor relations among the three unions (i.e., steelworkers, security guards, building trades) improved from 900 grievances to a mere handful per year, and a culture of life-long employment and employee entitlement was replaced by a workforce that enthusiastically worked itself

out of a job as quickly as possible. Remediated pollution levels surpassed initial federal standards by a multiple of 13, and safety performance exceeded federal standards by two-fold and the construction industry average by four-fold. More than 200 technological innovations were produced in the service of faster and safer performance. The theme of the facility, “making the impossible possible,” represents performance that exceeded by a wide margin even the most optimistic estimates.

Figure 1 summarizes key performance changes that occurred from the time Kaiser-Hill initiated the project in 1995 until the year 2005. It highlights the dramatic success achieved on a variety of criteria – timeliness, budget, productivity, labor relations, safety and outcomes – which occurred over the ten-year period after Kaiser Hill began managing the facility.

### Summary of Outcomes

Despite the unusually difficult environment that characterized Rocky Flats at the outset of 1995, this figure summarizes the extraordinary results achieved by a remarkable organization. The project was completed in one-sixth the time and at less than one-sixth the cost compared to the original estimates. Pollution was mitigated from the most dangerous levels in America to a condition safe enough for a wildlife refuge and nature center. Despite facing a work scope in which the slightest error could have been disastrous, along with a set of tasks that had never been completed before, safety performance improved from levels worse than industry and federal averages to more than twice as good as these benchmarks. Safety improved by five fold, in fact, compared to the safety records being achieved previous to 1995 when absolutely no clean-up or closure work was being accomplished at all.

It is now well-known that employee layoffs and downsizing are likely to create bitterness, resistance, and deteriorating performance in organizations (see Cameron, 1994, 1998). Yet, at Rocky Flats, the workforce was incrementally reduced over the ten-year period from almost 8000 employees to zero with no strikes, a dramatic reduction in grievances, and labor relations rated by both union and management employees as “the best we have ever experienced.” External constituencies – including various citizen groups in the surrounding communities, Colorado state officials, regulators such as the Environmental Protection Agency (EPA), and the supervisory Department of Energy (DOE) – became partners, collaborators, and contributors to the success of the project. This outcome represents a dramatic shift from 10,000-person protests, lawsuits, an FBI raid, court battles, and the legislative pressures that characterized these relationships in 1995.

Exceeding almost every expected level of performance makes Rocky Flats an “*extreme case*” – an example so different from the norm that examining its features brings into stark relief particular features that may be hidden in normal organizations and under usual circumstances. This analysis, albeit significantly abbreviated in this paper, highlights the values held by leaders in Kaiser Hill which led to this positively deviant performance. Such values may become obvious only in extraordinary circumstances.

**Figure 1 Rocky Flats Before and After the CH2MHill Contract**

Performance Criteria	Beginning (pre 1995)	Conclusion (2005)
Estimated time for completion of closure	70 Years	10 Years
Estimated closure budget	\$36 Billion	Just over \$6 Billion
Pollution levels	“Most dangerous rooms in America.” DOE standard = 651 Ci/gm	Safe enough for a wildlife refuge. Residual soil action levels of 50 pCi/gr
<b>Safety</b> TRC = Total Recordable Case Rate (# of occupationally related incidents requiring more than basic first aid) LWC = Lost Workday Case Rate (restricted days away from work) Statistic is calculated by rate for 100 FTE or (# injuries/illnesses X 200,000/manhours)	TRC Jan 1996 = 5.0 (Construction Industry Avg. 4.5)  LWC July 1996= 3.2 (Construction Industry Avg. 4.5)	TRC July 2004= 1.0 (Construction Industry Ave: 4, DOE Average: 2)  LWC July 2004=0.2 (Construction Industry Ave: 4, DOE Average: 0.8)
Number of employees	3,500 during production. 8,000 after 1989 shutdown and before cleanup.	Steadily declining with consistent layoffs through completion in 2005.
Labor relations	900 employee grievances in 1998.	“A handful a year.” A union steward reported: “The best labor/management relations I’ve seen.”
Relations with communities	10,000 protests; mistrust and little information flow to communities.	Model stakeholder dialogue structure. Frequent collaboration.
Relations with the State of Colorado	Adversarial. Asserted that the Atomic Energy Act shielded them from State oversight.	Significant and positive. State government officials were instrumental in securing federal support & helping regulators and contractor work collaboratively together.
Relations with regulators: DOE and EPA	EPA requested FBI raids that shut down the facility in 1989.	Site is a pioneer and a benchmark within DOE & EPA for clean-up and closure.
Productivity	Between shutdown and closure announcement, almost no work was carried out.	Far ahead of accelerated closure schedule in terms of both time and cost.
Organizational Culture	Secrecy, highly compartmentalized, assumptions of lifelong employment, low morale after shutdown.	Collaborative, pride in closure, increased transparency, optimistic vision with a meaningful purpose.



## Data Sources and Methodology

Information on how spectacular performance was achieved at Rocky Flats came from interviews with the actual individuals involved. Interviews were conducted from 2003 through 2005, so information was gathered as part of the on-going process of change. Adopting this approach provided a glimpse of how these leaders experienced the dramatic change, what strategies were being contemplated, and what factors the participants themselves believed were the keys to success. It also highlighted the fact that no successful change in organizations – at least no significant positively deviant change – is due to a lone heroic leader or to a single vision developed by an individual at the top. It is commonplace to identify single leaders as the chief architects of spectacular successes, and people often attribute remarkable organizational achievements to a sole person's talents or genius. Icons such as Jack Welch at General Electric, Steven Jobs at Apple, Bill Gates at Microsoft, Fred Smith at Federal Express, Sam Walton at Wal-Mart, Warren Buffet at Berkshire Hathaway, and a host of others are credited with being the chief explanations for the remarkable achievements of their respective companies.

On the other hand, the story of Rocky Flats is a story of many leaders, many interwoven activities, many constituencies, and many heroic endeavors that all combined to produce a remarkable story of success. This is an important key insight emerging from the analysis of this transformation – leadership comes from multiple sources at multiple times, and it must be coordinated and aligned in order for spectacular success to occur.

The individuals from whom information was gathered represent a broad spectrum of participants in the Rocky Flats project, including federal government oversight personnel from the Department of Energy (DOE) and the Environmental Protection Agency (EPA), local elected officials, Colorado State office holders, members of the U.S. Congress and their staff members, representatives of local and state environmental and citizen watchdog groups, managers and supervisors working in the Rocky Flats facilities, union leaders, and union members doing the daily work of clean up and closure. Each of these groups provided unique perspectives, insightful descriptions, and helpful explanations for the success of this remarkable endeavor.

In addition to the face to face interviews, approximately 24 hours of videotaped interviews conducted by DOE were also analyzed. Interview subjects in those tapes included a broad cross-section of stakeholders including elected officials in Colorado, other representatives from the State of Colorado, members of the EPA, local community groups surrounding the Rocky Flats site, U.S. Congressmen who were involved in the project, and Rocky Flats site managers from both the DOE and Kaiser-Hill.

Data was gathered primarily during the process of closure and clean-up, rather than at the end of the project. In other words, respondents were describing processes as they were unfolding, not retrospectively after the project had been completed. It must be pointed out, however, that our interviews and those on the videotapes were



conducted after the site had enjoyed several years of success, and contributors did reflect back on and describe events regarding the history of the site.

One caveat is in order regarding data collection. Despite this being a remarkable story of success, promises of confidentiality and anonymity were made to all respondents in order to enhance the probability of obtaining accurate and honest information. Not all data collected were glowingly positive, of course, and candid information was obtained by ensuring that names would not be associated with individual comments or actions.

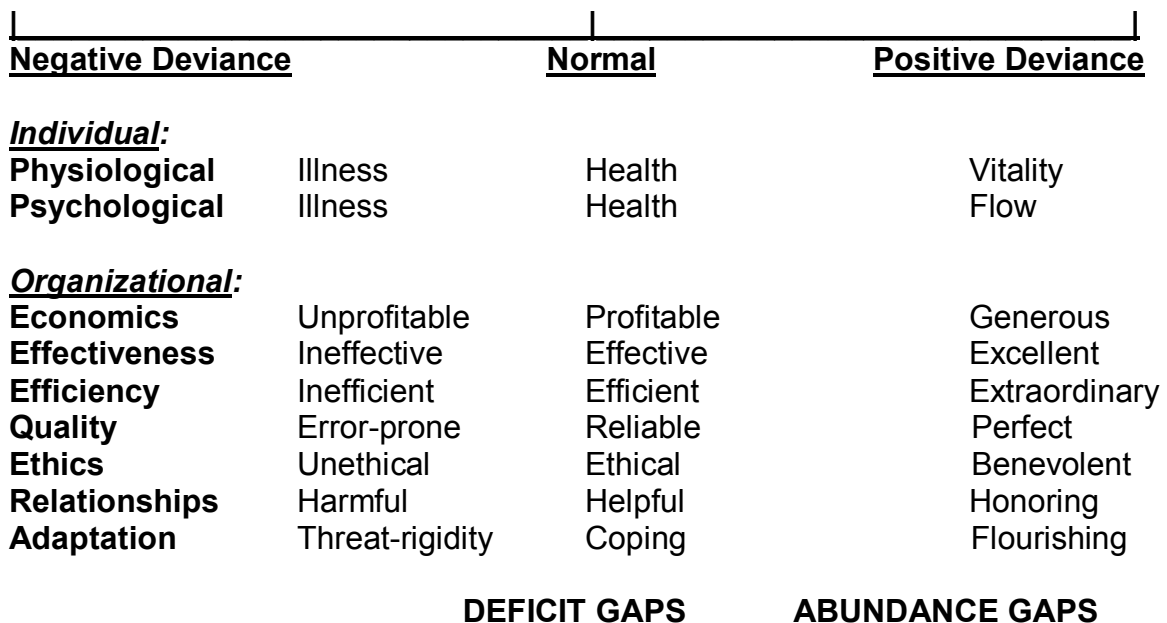
### Abundance Values and Key Enablers

The overarching leadership lesson learned from Rocky Flats can be summarized in a single statement, although it belies the complexity that under girds this straightforward observation: *The impossible was made possible by adopting an abundance value system rather than a deficit value system.* An abundance value system is deceptively simple.

Consider the continuum in Figure 2 which is anchored on the left side by negatively deviant performance and on the right side by positively deviant performance (see Cameron, 2003). In the middle is normal or expected performance.

**Figure 2 A Deviance Continuum**

(SOURCE: Cameron, 2003)



Most leaders pay almost exclusive attention to the gap between what is going wrong: mistakes, poor performance, or illness and the middle point on the continuum, represented by an absence of illness, effective performance, or problem resolution. This gap might be labeled a “deficit gap” or a “problem solving gap.” A large majority of scientific research in fields such as medicine, psychology, and organizational

studies focus on deficit gaps – i.e., addressing and overcoming problems. On the other hand, the gap between the middle and the right side represents an “abundance gap”— the gap between successful performance and spectacular or extraordinarily positive performance. This gap receives far less attention in scientific research and in the attention of managers and leaders (Cameron, Bright, and Caza, 2004). The right side of the continuum implies that leaders in organizations not only focus on being profitable, effective, efficient, or reliable in performance (represented by the middle point in the continuum), but they also focus on being extraordinary, flawless, or benevolent. Their outcomes produce benefit for more than the organization itself, since a condition of abundance makes possible the success of others outside the organization as well. The abundance approach motivates change in organizations based on the pursuit of a greater good and an opportunity to achieve positively deviant results. The right side of the continuum represents a condition of *virtuousness* – that is, the highest human condition, or the best that human beings aspire to be. The pursuit of virtuousness supplements the pursuit of personal reward and problem solving. Previous research has confirmed that abundance fosters virtuousness (Cameron, 2003).

At the heart of the Rocky Flats success story lies an approach to change represented by an abundance perspective in contrast to a deficit perspective. Rocky Flats succeeded because it was, fundamentally, a project in pursuit of abundance gaps reduction rather than deficit gap reduction. Working toward the achievement of a greater good, beyond personal or even organizational success, was a key to explaining the spectacular outcomes.

Not enough space exists to explain the multiple *enablers* that made this unbelievably successful change possible, of course – i.e., the processes, techniques, strategies, and relationships that were developed and that helped produce these outcomes. A variety of enablers were important in explaining how the status quo was transformed into a new way of thinking, a new way of doing work, a new way of interpreting success, and a new set of values for those involved in the project (see Cameron & Lavine [2006] for a more thorough description). The most important factors in accounting for success, however, were the values held by the leaders involved in the project which gave rise to the other enablers of success. These leaders included not only the CEO or the top management team at Kaiser Hill, but they included individuals in DOE, EPA, the State of Colorado, and local citizen action groups. The leadership values that came to permeate these various groups of leaders, as they worked in collaboration with one another, help explain how and why the other enablers of success were able to occur. This paper highlights the ten most central leadership values, therefore, because they lie at the foundation of the spectacular success that was achieved.

### **Leadership Values**

Articulating the values of Rocky Flats leaders is especially important because these values can be applicable to other organizations and other circumstances. The inherent interest in the Rocky Flats story resides in the extent to which its leadership lessons also produce success for leaders in other organizations. It is clear that some

of these leadership values are not consistent with the popular leadership literature or with much commonly prescribed consultant advice. Nevertheless, they are crucial in accounting for the achievement of extraordinary success, dramatic change, and spectacular performance in this case. The ten key leadership values are described below.

**1. The lone heroic leader is largely fiction. Effective leadership is always plural.** Single leaders with positive energy, vision, and know-how are indisputably important, of course, in producing positively deviant performance in organizations. Yet, despite the fact that these individual leaders frequently receive the lion's share of the credit for success, multiple sources of leadership are always required. At Rocky Flats, multiple leaders in multiple roles were critical to success. It was clear that no leader could have succeeded alone – multiple leaders acting in collaboration with one another and sharing a common set of values was crucial. Leadership successors had to maintain a consistent set of values as well as leadership in various constituencies. Supportive and aligned leaders in Kaiser-Hill and within DOE, EPA, the State of Colorado, local citizen action groups, and Kaiser-Hill's parent company, CH2MHill, all were essential for spectacular success. In Rocky Flats, without effective leaders in many locations and across successors, aligned in a common vision, and pursuing a clear purpose, positively deviant performance would not have occurred. ***Leadership value: It is important to foster, enable, and encourage leaders throughout the organization and in other stakeholder relationships to behave like leaders. A single leader cannot produce abundance.***

**2. Financial incentives must create lifestyle change in order to create change in thinking.** The possibility of Rocky Flats employees receiving financial benefits that exceeded any previous remuneration package was a key to the achievement of success. An extraordinary percentage of the incentives received from the government for early closure were passed along to the workers. What was unique about this incentive system, however, was that the incentives were provided with the assumption that the workers *had already* succeeded in reaching spectacular performance. A large percentage of remuneration in the early years was paid in "scrip" that had little value unless spectacular levels of achievement were reached. Employees received the remuneration in advance, but it paid off only if they reached the objectives. In the first year, for example, scrip was worth 20 cents on the dollar. In 2005, however, it was worth more than a dollar. It became possible, in other words, to earn much more than the normal amount of pay – in fact, lifestyle altering levels of pay – if positive deviance occurred. There is much research suggesting that paying people more money does not create higher levels of satisfaction or performance. Yet, a reliance on financial incentives is the single most frequent strategy used by organizations to obtain these desired outcomes (Lawler, 2000). Pay is, by and large, not a motivator. However, when promised benefits reach a level where they could change lifestyle – that is, when individuals can earn enough to obtain opportunities never before afforded them – pay has a chance to alter employee perspectives and organizational culture. At Rocky Flats, the incentive system was structured so that employees could earn lifestyle changing levels of compensation, and as a result, it changed the nature of their thinking. ***Leadership***

*value: Use incentives to create positively deviant change only if can change life styles.*

**3. The profound purpose for which the organization strives must extend beyond self-interest and beyond individual lifetimes.** Every organization has a vision statement, a set of core values, and a primary mission. Most believe that they are in business to fulfill an important objective — usually to provide value in the form of financial benefits to shareholders, investors, or customers. Hardly any leader, on the other hand, wishes his or her tombstone to read that under his or her direction shareholder value increased, sales improved, market share was captured, or 99 percent customer satisfaction was obtained. These are important outcomes, of course, but something more fundamental, more long-lasting, and more humane had to be pursued if Rocky Flats was to achieve extraordinary performance. Most often profound purpose highlights a human benefit that may extend beyond a single person's life or sphere of influence. At Rocky Flats, the opportunity to create a wildlife refuge that would benefit generations yet unborn, as well as to clean-up and make safe the most dangerous location in America, was a motivating vision and virtuous objective that extended beyond personal benefits. People were willing to go the extra mile, to learn new skills, to invest more creative energy, and to alter their work skills in pursuit of such an objective. ***Leadership value: A profound purpose for the organization's activities must be identified which benefits human beings for the better over the long term.***

**4. Symbolism must focus on what the organization aspires to become.** Most organizations have symbols that represent their identity or image — flags, logos, captions, insignias, signs, or lettering. Most images have been designed by graphic artists to portray some kind of message about the firm — what it stands for, what business it is in, or what its core attributes are. Such symbols have more meaning to employees than to the external public, of course, so the symbolism representing the organization must communicate first and foremost to employees. The symbolic message should focus on what the organization aspires to become. At Rocky Flats, several profound and meaningful stories — regarding the importance of growing peace gardens, the destruction of guard towers and razor wire fences designed to keep the public out, the blowing-up of the headquarters building to force managers to co-locate with the workers, and creating a multigenerational legacy of replenishing nature — substituted for logos and letterheads. These stories became the symbols by which internal and external constituencies defined the organization. External symbols were replaced by internal symbols. These internal symbols focused almost exclusively on abundance values and achieving spectacular success. The values reflected in these stories became the symbols of what the organization represented. ***Leadership value: Symbols should be chosen that represent abundance aspirations for the organization and its members.***

**5. Intense bureaucracy is necessary for success – i.e., careful planning, tight controls, precise measurement, rigid accountability, and even micro management of crucial activities.** Bureaucracy is a dirty word in most leadership and organization literature. It is much more common to read about the need to destroy bureaucracy, break the rules, obliterate red tape, and extinguish formalization in the popular

literature than to hear prescriptions to do the reverse (Buckingham, 2001). On the other hand, Rocky Flats was successful because of proficient execution, defect free performance, careful measurement, and accountability. These activities are all dependent on what is frequently eschewed as destructive to excellent performance. Without careful assessment, metrics, milestones, and standardization, this organization would never have achieved its dramatic success. Weick (2006) argued that all organizations are hubris-inducing places – that is, they foster excess self-confidence and arrogance. They often reinforce successes and minimize weaknesses to the extent that potential problems are ignored and self-congratulation becomes common. Intense bureaucracy helps to moderate overconfidence by holding people accountable and ensuring accurate assessment. At Rocky Flats, a very specific and a rigidly-adhered-to set of processes and routines were a prerequisite to accomplishing the tasks in such a rapid time-frame. Projectizing the work – in which multiple standardized procedures and measures were implemented exactly – was a key to Rocky Flats success. Rather than getting in the way of speed and achievement, however, these routines were followed in order to enhance them. ***Leadership value: The control system must be well-developed, measurement and metrics must be in place, and clear, unequivocal targets must reinforce the achievement of extraordinary performance.***

**6. Trustworthiness implies perfection, but it is contingent on collaboration and mutual support.** The popular literature on trust suggests that consistency, equity, honesty, and discretion are key prerequisites for its presence in organizations. If individuals are treated fairly, feel that they are not being deceived, have freedom to act, and observe consistent behavior, trust is likely to be high (Mishra, 1992). In addition to these attributes, however, organizations aspiring to achieve positively deviant behavior must also leave no room for aberrations from promises. In the case of Rocky Flats, a single instance of infidelity would have severely damaged trust with external constituencies. Commitments had to be strictly observed consistently. Thus, complete trustworthiness was associated with perfect follow-through on all commitments at Rocky Flats. Because of human fallibility, however, social support is required where colleagues must provide assistance, cover, advice, and even forgiveness when unwitting flub-ups occur. No individual can avoid making mistakes at some point. Hence, collaborative relationships inside the work setting make it possible to produce high reliability outcomes before outsiders first encounter the results. At Rocky Flats, such a culture enhanced the possibility of maintaining the highest levels of trust. Supportive relationships on the inside helped foster trustworthiness on the outside. ***Leadership value: All success depends on the presence of trust, but high quality relationships must be built that permit perfect execution on commitments to external stakeholders.***

**7. Positive deviant performance requires culture change, and culture change requires a change in individuals.** Achieving extraordinary performance will not occur by reinforcing the same organizational culture. Behaving in the same ways and believing the same things will produce normal, expected, predictable outcomes. At Rocky Flats, spectacular results required a fundamental shift in culture. Organizational culture includes the values, assumptions, ways of thinking, norms,

styles, actions, and artifacts that characterize the organization. It represents “the way things are around here.” Cameron & Quinn (2006) outlined a culture change process that involves culture diagnosis, clarifying meaning, establishing strategies and tactics, identifying metrics, measures, and milestones, and developing the leadership to manage the change. A fundamental change in an organization’s culture, however, also requires a fundamental change in its members as individuals. The people themselves must be different, sometimes through replacement — as occurred with some supervisors at Rocky Flats — or through a fundamental change in their orientation and values. At Rocky Flats, individuals abandoned life-long employment objectives in favor of working themselves out of a job as fast as possible. They abandoned a secrecy culture in favor of an openness culture with all constituencies. They abandoned an adversarial orientation toward state and federal regulators and adopted a proactive, sharing orientation. They abandoned an antagonistic attitude toward protesters and regulators and adopted a collaborative, empathetic attitude. Leaders shifted from a profit-first stance to a generous, share-the-benefits stance. Leaders placed more emphasis on abundance-enhancement goals than on deficit-reduction goals. In other words, individuals themselves were required to undergo a fundamental internal change in order for the organization to experience the collective change required for spectacular performance. ***Leadership value: In changing organizational culture, it must be ensured that individuals (especially leaders and influencers) believe differently, behave differently, and pursue an abundance-based vision.***

**8. Learning from mistakes should get less priority than learning from successes.** It is common for people to advocate that wisdom and experience come from making mistakes. Thomas Watson (2005), the Nobel laureate, stated: “Would you like me to give you the formula for success? It’s quite simple, really. Double your rate of failure.” Oscar Wilde (1892) is reported to have said: “Experience is the name everyone gives to their mistakes.” On the other hand, in circumstances in which mistakes can be very costly, destructive, or even deadly — as was true at Rocky Flats — identifying what works, what principles produce success, and how spectacular achievement can be reached should receive at least as much attention as analyzing and deconstructing errors. Rather than following the normal problem-solving model which involves asking what the problem is, what the possible alternatives are, and then identifying which alternative is the optimal one for resolving the problem, another possibility can be considered. This approach was pursued at Rocky Flats, and it involves asking what has been a spectacular success or a peak performance, what the enablers of this success were, and which of those enablers can be carried forward to design a strategy for extraordinary success going forward (Cooperrider & Srivastava, 1987). Learning from mistakes is important — and often critical — but it is often pursued at the expense of learning from successes. At Rocky Flats, more than 200 innovations were produced as a result of analyzing what was working and trying to improve on it. Building on success produced faster progress than analyzing mistakes. Of course, errors, problems, and mistakes cannot be ignored, but they often consume all of the time and attention of an organization, and learning from success is minimized because of the threats presented by the problems (Baumeister, et al., 2001). At Rocky Flats, achieving abundance objectives received at least as

much attention as avoiding failures. **Leadership value: Outstanding success should be deconstructed and the key enablers and explanatory factors should be identified, then a future strategy based on these factors should be built.**

**9. Strategy should be established on the basis of what the organization can be rather than what it has been or what it is now.** Most models of corporate strategy are based on the core competencies of the organization, its strategic intent, the dynamics of the competitive market place, and key differentiators that can produce a sustainable advantage (Barney, 2001; Hamel & Prahalad, 1996). Such strategies will likely lead to competitive performance and reasonable levels of success. For spectacular performance to be achieved, however, strategy must be built on what is possible, on a scenario that has never been accomplished before, and on a theory of abundance. Rocky Flats could not have achieved impossible performance merely by trying to outperform the industry average or to achieve a sustainable competitive advantage. Positive deviant performance required the insight to build a foundation on possibilities rather than probabilities. The vision at Rocky Flats was aimed at levels of performance never before achieved and never thought possible. The organization's strategies were aligned with those objectives so that extraordinary success became a natural outcome. **Leadership value: Aspirations for what the organization could be must be articulated; then a strategy to achieve it can be constructed.**

**10. Virtuousness pays.** Adopting an abundance approach – that is, enabling the best of the human condition, exhibiting virtuous behaviors, fostering human thriving, being generous with resources, displaying unflinching integrity, demonstrating humility, exercising faith – has inherent value. On the one hand, demonstrating virtuousness is considered by almost everyone as admirable and fundamentally the right thing to do. It is what we aspire to do and to be as human beings. Virtually all of the world's cultures value the same inherent goodness. On the other hand, if an observable, bottom-line impact is not connected to an abundance approach, it becomes subservient to the very real pressures for improving organizational performance – usually defined as higher return to shareholders, profitability, productivity, customer satisfaction, and the like. Virtuousness must pay economically for it to be taken seriously in organizations, otherwise it is defined as irrelevant at best and syrupy or saccharin sweet at worst. The irony is that to behave virtuously in order to obtain a reward or a personal benefit ceases, by definition, to be virtuous and becomes manipulation. Fortunately, evidence exists in the Rocky Flats story, and elsewhere in scholarly literature (see Cameron, 2003; Gittell, Cameron, Lim, & Rivas, 2005), that virtuousness pays dividends. Higher organizational performance results from virtuousness than from its absence. At Rocky Flats, pursuing the best that could be imagined, reaching for the highest aspirations that could be dreamed, and pursuing fundamental goodness had a powerful affect on actually being able to achieve the objective 60 years early and \$30 billion under budget. **Leadership value: Virtuous behaviors and values should be enabled and reinforced throughout the organization, even when economic objectives are dominant.**

## Summary



Although the empirical evidence for these ten key leadership values are not discussed in detail in this chapter (they are available in Cameron & Lavine, 2006), it is clear that positively deviant performance is dependent on them. Extraordinary success at Rocky Flats – which began in a deficit condition and exceeded even the most optimistic estimates of success – was dependent upon these ten leadership values being demonstrated in the organization. This leadership came from multiple sources, not just from the CEO, and it was based on an abundance approach as opposed to a deficit or problem-solving approach to success. In the end, focusing on core values relating to abundance emerged as crucial enablers of spectacular success.

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## Author Biography

Dr. Cameron is Professor of Management and Organizations at the University of Michigan. He received his Ph.D. from Yale University. His past research on organizational downsizing, organizational effectiveness, corporate quality culture and the development of leadership excellence has been published in more than 100 articles and ten books: *Coffin Nails and Corporate Strategies* (Prentice Hall), *Developing Management Skills* (Prentice Hall), *Diagnosing and Changing Organizational Culture* (Jossey Bass), *Organizational Decline* (Ballinger), *Organizational Effectiveness* (Academic Press), *Paradox and Transformation* (Ballinger), *Positive Organizational Scholarship* (Berrett-Koehler), *Leading with Values* (Cambridge University Press), *Competing Values Leadership* (Edward Elgar), and *Making the Impossible Possible* (Berrett Koehler). His current research focuses on virtuousness in and of organizations such as forgiveness, gratitude, kindness, and compassion and their relationship to performance. He is one of the co-founders of the Center for Positive Organizational Scholarship at the University of Michigan, and this work was recognized as one of the 20 highest impact ideas of 2004 by the *Harvard Business Review*.

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