



Nuclear Plant Optimal Culture Report

May 3, 2004

Utility Service Alliance
Community of Practice Culture Validation Team

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Introduction

The Utilities Services Alliance (US Alliance) is committed to achieving and sustaining the highest levels of human and organizational performance across its member plants. To this end, the Alliance chartered a Community of Practice (CoP) to explore the following questions:

- Does an organization's culture impact its performance?
- If so, is there an optimal culture for a nuclear organization?
- Can we accurately assess culture?
- Where does culture fit within the organizational effectiveness equation?

As a result of reviewing current research into organization culture and performance; conducting on-site cultural assessments; interviewing employees; and correlating key findings with INPO's published Excellence in Human Performance² and Standards of Organizational Excellence³, the CoP concluded that:

Organizational culture does impact human and organizational performance and that it is possible to identify an "optimal" culture for a nuclear organization.

The members of the Optimal Culture Team and both focus groups strongly agreed that the primary style for the "Optimal" culture should be Constructive. The Constructive Style includes norms and behaviors that reflect expectations for members to interact with others and approach tasks in ways that will help them to meet their higher-order satisfaction needs for contribution, achievement, affiliation, esteem and self-actualization.¹ Organizations with Constructive cultures encourage members to work to their full potential, resulting in high levels of motivation, satisfaction, teamwork, learning and quality. Members must balance expectations for taking initiative and thinking independently with those for consensus and power sharing. They are expected to participate without taking over and to voice unique perspectives and concerns while working toward agreement. Members are expected to be accountable for producing high quality work that meets high standards and to continuously improve performance.

Finally, the CoP found that the Organizational Culture Inventory¹ (OCI) was a highly reliable and valid instrument for identifying the "Optimal" culture for a nuclear organization.

This document provides the project background and a definition of the "Optimal" culture, including specific behavioral requirements that are tailored to a nuclear environment. Also included is an overview of a number of environmental factors that are influencing the need to address culture within the nuclear industry.

Background

In December of 2003, the USA Board of Directors chartered a group of leaders to initiate a Community of Practice, define the optimal culture for a nuclear plant and test the capacity of the Organization Culture Inventory¹ (OCI) to accurately depict the current and “Ideal” culture for nuclear organizations. Previously, under an initiative sponsored by Alliance member Susquehanna, 123 employees from four USA plants were asked to complete the OCI to identify the behaviors that should be expected and encouraged in a nuclear plant to maximize organizational effectiveness. The OCI, created by Human Synergetics Inc., is the most widely used psychometric tool for measuring the actual attitudes and behaviors underpinning culture. The results from USA assessment were compiled into a description of the “Ideal” culture for a nuclear organization and presented to the Board during their November meeting in Atlanta.

The Board reviewed the findings and commissioned a group of alliance member representatives to explore the benefits of establishing a Community of Practice (CoP) to address culture change as a strategy to improve organizational effectiveness and ultimately, achieve and sustain excellent performance. Upon receiving a positive recommendation for proceeding with a CoP, the Board approved a two-step process to validate and tailor the “Ideal” culture for the Alliance plants. The first step involved a team of nuclear professionals representing all plants in a process of reviewing, tailoring and fine-tuning the composite “Ideal” model of the four initial plants. The second step involved conducting two focus groups to validate and further “fine-tune” the output of this team.

On March 3, 2004, a group of 10 leaders representing all of the Alliance plants, three INPO representatives and three supporting consultants met for two days to validate and fine-tune the “Ideal” model. Prior to the session, each participant completed the OCI and a number of interviews to determine what behaviors and cultural conditions support excellent, error free work. In addition, each participant was asked to complete an external and internal environmental analysis. The findings from the interviews and the environmental analysis gave form to a set of cultural criteria that was used to validate and tune the Ideal culture model.

A composite Circumplex¹ of the Optimal Culture Team participant’s OCI scores was created and became the basis of the validation exercise. It should be noted that the Validation Team’s composite Circumplex revealed strong agreement among the team members, as well as strong alignment to the group of 123 employees. The validation process produced minor change in the Perfectionistic Norm and moderate strengthening of the Oppositional norm. The team concluded that the remaining 10 norms accurately described the “Ideal” culture for a nuclear plant. In addition to validating the “Ideal” culture, the team added clarifying language and expanded the behavioral descriptions for the norms that were most strongly desired in the nuclear culture.

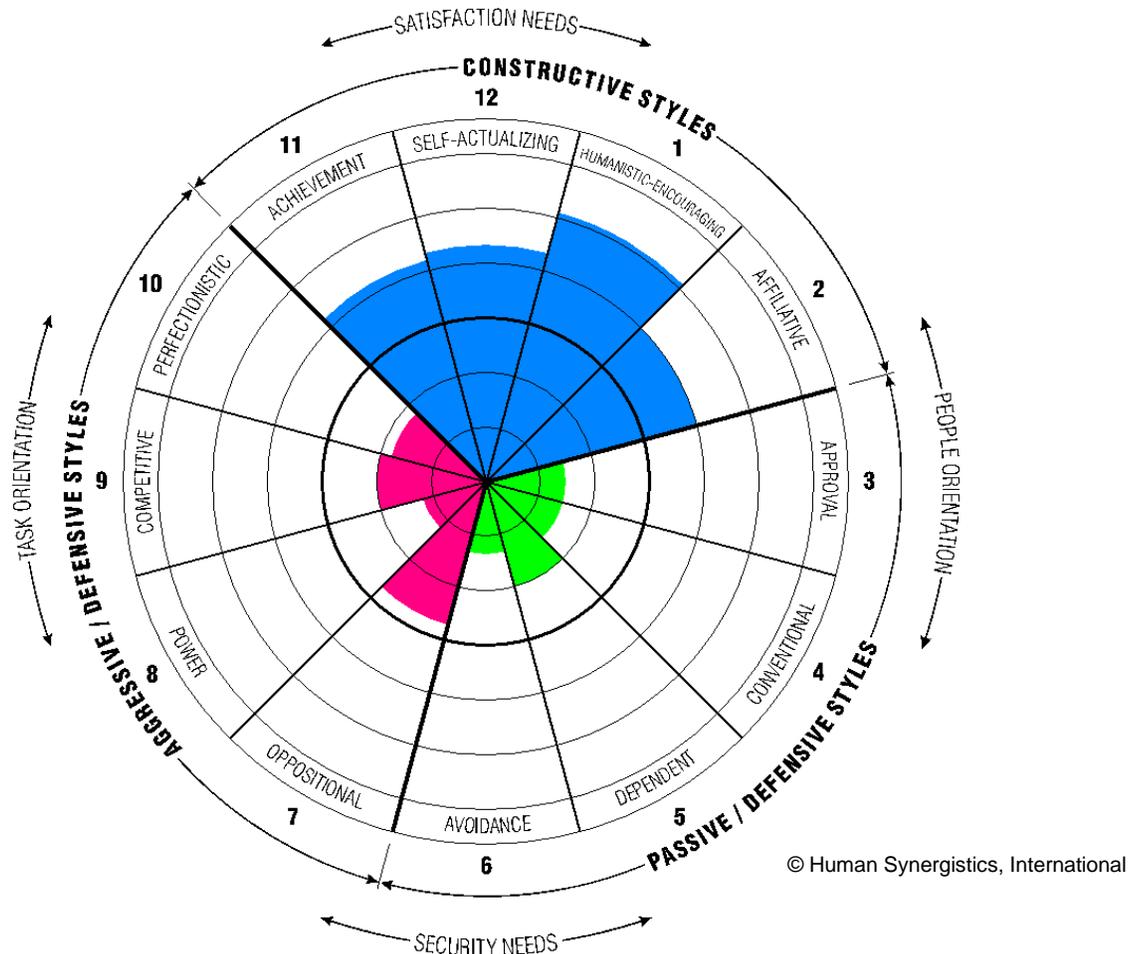
This team produced an “Ideal” Circumplex, a narrative description of the expected behaviors and norms, and a summary of the external and internal trends.

The next step was an analysis to test the alignment between the OCI “Ideal” and INPO’s Attributes of a High Performing Organization and Principles of Excellence in Human Performance. The analysis revealed very strong alignment between the “Ideal” cultural norms and behaviors and the principles described by INPO. The results of this analysis and the output from the Optimal Culture Team were shared with Focus Group to further test and validate the results.

On April 21 and 22, 2004 two focus groups were convened for the purpose of validating the “Ideal” culture model produced by the Optimal Culture Team. The April 21st Focus Group consisted of senior leaders from each of the plants and INPO, and the April 22nd Group consisted of managers, supervisors and bargaining unit leaders from each of the plants. Both of these groups reviewed, fine-tuned and validated the Environmental Trends, Validation Criteria, “Ideal” Circumplex and the Behavioral Descriptions. In addition, each Focus Group member was asked to give their personal thoughts on the value and merits of the Optimal Culture and their plant’s commitment to support a Community of Practice going forward.

Following the same preparation process used by the Optimal Culture Team, each focus group participant was requested to conduct two “Peak Performance” interviews and complete the OCI Ideal. It should be noted that the senior leaders composite OCI “Ideal” produced a Circumplex very strongly aligned with that of the Optimal Culture Team. The manager/supervisor and bargaining unit composite showed strong alignment with the exception of slightly less strength across the Constructive Norms and slightly greater extensions on all of the Defensive Norms. The senior leaders had average to very strong agreement and the manager/supervisor and bargaining unit group was found to have weak to very strong agreement. The two focus groups demonstrated very strong agreement with the strength of the Constructive Norms and both suggested slight strengthening of the Oppositional and Perfectionistic Norms. In addition, each group provided suggestions for simplifying and aligning the behavioral descriptions to the nuclear environment.

Ideal Organizational Culture Circumplex



The primary style is **Humanistic-Encouraging** and the behaviors most strongly desired are:

- Encourage others
- Be supportive of others
- Be a good listener
- Help others think for themselves

The secondary styles are Achievement and Self-Actualizing and the behaviors most strongly desired are:

Achievement

- Pursue a standard of excellence
- Think ahead and plan
- Know the business
- Work for a sense of accomplishment

Self-Actualizing

- Maintain their personal integrity
- Enjoy their work
- Communicate Ideas
- Emphasize quality over quantity

Validation Criteria

The Ideal Culture Team developed a set of culture criteria to use in its validation and fine-tuning process. In turn, the Focus Groups reviewed and refined the Validation Criteria, and then used these to complete its own validation and fine-tuning of the “Optimal” culture. The primary criteria was:

Nuclear Safety*	The special characteristics of Nuclear Technologies are taken into account in all decisions and actions, including a free, uninhibited and respectful challenging of each other.
Operational Excellence	Commitment to high standards, event free work and continuous improvement.
Future Workforce	Recruiting and retaining highly skilled workers, retaining members of the current workforce and capturing existing institutional knowledge.
Organizational Performance	A learning organization that has a competent and informed workforce that demonstrates strong alignment to goals and desired results.
Teamwork	Support each other and collaborate across organization boundaries.

* Principles for a Strong Nuclear Safety Culture

1. Nuclear safety is everyone’s responsibility.
2. Leaders demonstrate commitment to safety.
3. Trust permeates the organization.
4. Decision-making reflects safety first.
5. Nuclear is recognized as different.
6. A “what if” approach is cultivated.
7. Organizational learning is embraced.
8. Nuclear safety undergoes constant examination.

Norms and Behavioral Descriptions

The following narrative description lists the behaviors most strongly desired in each of the 12 norms. The norms are listed in order of expected strength and the behavioral norms are listed in order of desirability from a very great extent to not at all. In some cases, the overall norm and individual behaviors were not desired within the Optimal Nuclear Culture.

Humanistic and Encouraging

The primary driving norm in the Optimal Nuclear Culture is Humanistic-Encouraging. Generally speaking the organization is managed in a participative and employee-centered way. Members are expected to encourage others, help others grow and develop, be a good listener, take time with people, actively seek out each other's suggestions and ideas and be open to influence. Additionally, members are expected to be respectful of each other, and to resolve conflicts collaboratively. A humanistic culture leads to effective organizational performance by providing for the growth and active involvement of members who, in turn, report high satisfaction with and commitment to the organization.¹

Behavioral Descriptions

Concerning the "Humanistic-Encouraging" norm in the Optimal Nuclear Plant Culture, members of the organization are expected to a great extent to:

- Show concern for the needs of others
 - Respect viewpoints and differences of others
 - Treat others with respect
- Involve others in decisions affecting them
 - Actively listen and use information contributed when possible
 - Inform people of the rationale behind the decision or action
- Resolve conflicts constructively
 - Enter conversations with inquiry
 - Focus on mutual objectives and looks for commonality
 - Accurately portray the situation and information
 - Bring resistance or conflict generated into the open to be addressed
 - Acknowledge the merits of differing points of view
 - Ask for help and encourage involvement
- Be supportive of others
 - Share information
 - Provide advice and input that helps others improve
 - Provide support without removing responsibility
- Help others grow and develop
 - Open and honest communication
 - Grow and learn from mistakes
 - Cross-team collaboration to share best practices
 - Clear roles and responsibilities and performance expectations
 - Provide feedback that is candid, timely and balanced
 - Identifies appropriate developmental paths
 - Provide resources, training and personal guidance

- Be a good listener
 - Employees freely state their ideas and thoughts without interruption
 - Active listening techniques are utilized
 - Both positive and negative ideas/concerns are raised
 - Listen and take an interest in others
 - Give your full attention to the person that is speaking
 - Confirm your understanding of what is being stated - repeat back for clarity

- Give positive rewards to others
 - Based on individual needs and motivations
 - Intrinsic and extrinsic used accordingly
 - Reinforce desired behaviors and performance
 - Reward behaviors supporting the station's vision, values and strategy
 - Use praise and recognition, be courteous

- Take time with people
 - Opportunities for open and candid discussion are actively pursued
 - Leaders work with direct reports to establish personal goals and priorities and provide regular feedback
 - Teams are rewarded and recognized collectively for performance

- Encourage others
 - Monitor performance, check results against established expectations and provide support and feedback
 - Builds support for other's ideas
 - Collaborate with each other
 - Maintain or enhance self-esteem

- Help others think for themselves
 - Employees have the appropriate authority and responsibility to do a task or project in their own way to the extent possible
 - Continuous improvement opportunities are identified and implemented
 - Questioning attitude encouraged
 - Sound problem solving and decision making techniques are employed
 - Training and development strongly encouraged

Benefits

Members within the organization believe that it is their responsibility to help others grow, develop, and perform their jobs better. This emphasis on training and coaching most benefits not only the recipients of advice and consultation, but also those providing it. As a result, Humanistic cultures are probably the most effective in developing and unleashing the talents of the employees.

Achievement

Achievement is one of two secondary styles within the Optimal Nuclear Plant Culture. Achievement culture characterizes organizations that do things well and values members who set and accomplish challenging goals. Members of these organizations set challenging but realistic goals, establish plans to reach these goals, and pursue them with enthusiasm. Achievement organizations are effective; problems are solved appropriately, clients and customers are served well, and the orientation of members (as well as the organization itself) is healthy.¹

Behavioral Descriptions

Concerning the “Achievement” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to a great extent to:

- Pursue a standard of excellence
 - Follow the mantra, “How can we do this better?”
 - Evaluate conditions and create contingency plans
 - Perform post job critiques and after action reviews
 - Apply self-initiative
 - Pursue continuous improvement, raising the bar
 - Learn continuously, learn from past experiences, use Operational Experience
 - Define standards of excellence for everyone
 - Be prepared to execute the task
- Think ahead and plan
 - Use STAR: stop, think, act, review
 - Know the vision of where the organization wants to go
 - Plan the route to success for jobs and activities
 - Seek others input, “Question – Validate – Verify (QV&V)”
 - Look to the future and develop strategies and plans
- Explore alternatives before acting
 - Identify alternative options in decision making, contingency planning
 - Perform benchmarking and implement good ideas
 - Challenge, “We have always done it that way.”
 - Test your ideas and decisions with others before acting
 - Seek out and use critical feedback
 - Use peer checking
- Know the business
 - Describe the big picture and how everyone’s role and job contributes
 - Define clear roles and responsibilities
 - Think broadly to improve performance
 - Establish a clear line of sight from everyone’s job to organizational goals
 - Exhibit pride, ownership and high morale

- Work for a sense of accomplishment
 - Engage in the purpose of the organization
 - Act as an ambassador of the business
 - Freely accept ownership of work
 - Understand how individual contribution impacts organizational goals
 - Appeal to members values, interest, dreams and hopes
- Openly show enthusiasm
 - Demonstrate genuine enthusiasm
 - Demonstrate responsibility and optimism
 - Appear open, relaxed and approachable
- Take on challenging tasks
 - Consider challenges as learning opportunities for personal development
 - Proactively seeks challenging work

To a moderate extent members are expected to:

- Take moderate risks
 - Challenge the status-quo
 - Consider environmental factors and balance opportunity with risk
 - Ask, “What if?” and have contingency plans in place
- Set moderately difficult goals
 - Initiate personal goal setting
 - Establish goals that are both challenging and realistic
- Work to self-set goals
 - Align personal goals with company business goals
 - Establish stretch goals and work to achieve these

Benefits

High performance in the “Achievement” norm results in performance excellence, continuous business improvement and personal development. Organization members understand the organization’s vision, goals and plans and how they personally contribute to achieving these. Problems are effectively solved, risk is minimized, morale is high and enthusiasm is contagious.

Self-Actualizing

With strong agreement, the Self-Actualizing norm was selected as a secondary norm for the Optimal Nuclear Plant Culture. A Self-Actualizing culture characterizes organizations that value creativity, quality over quantity, and both task accomplishment and individual growth. Members of these organizations are encouraged to gain enjoyment from their work, develop themselves, and take on new and interesting activities. While self-actualizing organizations can be somewhat difficult to understand and control, they tend to be innovative, offer high-quality products and/or services, and attract and develop outstanding employees.¹

Behavioral Descriptions

Concerning the “Self-Actualizing” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to a great extent to:

- Emphasize quality over quantity
 - Safety at the highest levels of quality
 - Take the time necessary to do it right the first time
 - Avoid paralysis analysis for lower significance issues
- Do even simple tasks well
 - Doing the simple tasks well sets & reinforces the standard for excellence in the big tasks
 - Observation of simple tasks can reveal precursors for significant events
 - Be conscious of the potential for complacency with simple, routine or mundane tasks
 - Perform to same high standards with or without supervision
- Communicate ideas
 - Take initiative to raise ideas
 - Create and foster an environment that encourages innovative ideas
 - Diversity of thought is desired
- Think in unique and independent ways
 - Look for opportunities to change and improve
 - Think out-of-the-box
 - Resist "that's the way we have always done it here"
- Maintain personal integrity
 - Builds trust
 - Communicate honestly
 - Walk the talk
 - Be ethical in all interactions
 - Behave in ways that are consistent with personal value system
 - Follow through on commitments & communications
 - Be tough minded and determined

- Enjoy work
 - Be fully engaged in your work
 - Right people, right place, right time
 - Provide meaningful challenging assignments

To a moderate extent members are expected to:

- Be concerned about their own growth
 - Joint responsibility for career development and growth
 - Committed to life-long learning
 - Seek out developmental opportunities and/or challenging assignments

- Be open about self
 - Be humble and human
 - Be open about the issues at hand
 - Be explicit with expectations
 - Be open to share personal experiences, mistakes and learning, as appropriate
 - Tell others what motivates you and ask others what motivates them

- Resist conformity
 - Follow the procedure, but look for improvement opportunities

Benefits

High performance in the “Self-Actualizing” norm will result in long-term sustainable high levels of plant performance. It will produce a high level of trust and a strong safety culture where issues are self identified and quickly resolved. This norm attracts high quality people who deliver high quality innovative results. It supports a continuous learning and business improvement where members identify issues for improvement. Errors are infrequent and when committed, they are turned into opportunities to improve quality.

Affiliative

The “Affiliative” norm was identified as the fourth strongest norm within an Optimal Nuclear Plant Culture. An Affiliative culture characterizes organizations that place a high priority on constructive interpersonal relationships. Members are expected to be friendly, open, and sensitive to the satisfaction of their work group. An affiliative culture can enhance organizational performance by promoting open communication, good cooperation, and the effective coordination of activities. Members are loyal to their work groups and feel they “fit in” comfortably.¹

Behavioral Description

Concerning the “Affiliative” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to exhibit the following behaviors to a great extent:

- Cooperate with others
 - Find and work towards common goals
 - Support and advocate for each other
 - Build trusting relationships

- Deal with others in a friendly, pleasant way
 - Respect differing ideas
 - Listen and take an interest in others
 - Give encouraging feedback
 - Challenge each other in respectful ways

- Think in terms of the group’s satisfaction
 - Share and commit to common challenging goals
 - Seek out win/win solutions
 - Freely share resources, support two-way sharing or resources

- Show concern for people
 - Respect other's position and needs
 - Support other’s position and needs
 - Respect other’s contributions
 - Provide feedback to others about their ideas

- Use good human relations skills
 - Take time to listen
 - Pay personal attention to others
 - Listen and respond with empathy
 - Test personal assumptions
 - Seek first to understand

- Treat people as more important than things
 - Involve others
 - Promote “Safety First”

- Share feelings and thoughts
 - Provide frequent and clear communication vertically and horizontally
 - Be willing to be vulnerable, when appropriate
- Motivate others with friendliness
- Be open, warm
 - Be approachable and accessible to others
- Be tactful
 - It is okay to be direct, but be respectful of others

Benefits

High performance in the “Affiliative” norm will produce enhanced performance, high employee morale, satisfaction and loyalty. It will allow the “Best Minds” to fully contribute all of their potential. This norm will promote high levels of teamwork and collaboration across the organization. It encourages honesty and commitment in communications and actions.

Oppositional

A number of the behaviors from the “Oppositional” norm were identified as necessary for the Optimal Nuclear Plant Culture. An Oppositional culture describes organizations in which confrontation prevails and negativism is rewarded. Members gain status and influence by being critical and thus are reinforced to oppose the ideas of others and to make safe (but ineffectual) decisions. While some questioning is functional, a highly oppositional culture can lead to unnecessary conflict, poor group problem solving, and “watered-down” solutions to problems.¹

Behavior Description

Concerning the “Oppositional” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to exhibit the following behaviors from a moderate to a great extent:

- Point out flaws
 - Members are expected to be on the lookout for flaws and offer ways to improve
- Look for mistakes
 - Be self-critical, find and fix errors
 - Balance looking for mistakes with looking for, “what is done right”
- Play the role of the “loyal opposition”
 - Members are expected to speak up and challenge each other and question for understanding
 - Explore consequences and alternatives before acting
 - Advocate your position
 - Confront “group think”
- Question decisions made by others
 - Inquire into decisions to test for logic, completeness, understanding and impacts
 - Demonstrate a questioning attitude at all times
 - Challenge each other in respectful ways to improve quality
 - Members are expected to seek out and use critical feedback
 - Test your ideas and decisions with others before acting
 - Use peer checking
- Be hard to impress
 - Members are expected to set and measure up to high standards
 - Test ideas for the highest quality possible
- Stay detached and perfectly objective

Benefits

Nuclear organizations require employees to be on the lookout for flaws, precursor actions and events. Healthy questioning, inquiry and debate balanced with respect are essential to reducing errors and achieving high quality results. The appropriate level of opposition within the optimal culture will encourage “constructive feedback,” focused on continuous improvement.

Competitive

Some “Competitive” norms are seen as necessary within the Optimal Nuclear Plant Culture. A Competitive culture is one in which winning is valued and members are rewarded for out-performing one another. People in such organizations operate in a “win-lose” framework and believe they must work against (rather than with) their peers to be noticed. An overly competitive culture can inhibit effectiveness by reducing cooperation and promoting unrealistic standards of performance (either too high or too low). On the other hand, too little competition may inhibit personal growth and motivation to continuously improve.¹

Behavioral Descriptions

Concerning the “Competitive” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to exhibit the following behaviors to a moderate extent:

- Be a “winner”
 - Seek to be the best
 - Solicit and utilize coaching and feedback from leaders, peers and others
 - Seek out learning and developmental opportunities from inside and external sources

- Always try to be right
 - Continuously strive to make the best possible decisions
 - Test your decisions with others to ensure the highest possible quality

- Outperform peers
 - Continuously benchmark and learn from others to improve self

Benefits

These modest pressures for Competitive behaviors will most likely promote an atmosphere of “healthy” competition, but are not sufficiently strong to promote conflict or create silos within the organizations. Healthy competition energizes and motivates members to continuously raise the bar for personal and group performance. It also gives members the confidence to challenge inferior performance and raise expectations for self and others.

Dependent

A slight to a moderate amount of the “Dependent” behaviors were identified as necessary for the Optimal Nuclear Plant Culture. A Dependent culture is descriptive of organizations that are hierarchically controlled and non-participative. Centralized decision making in such organizations leads members to do only what they’re told and to clear all decisions with superiors. Poor performance results from the lack of individual initiative, spontaneity, flexibility, and timely decision making.¹

Behavioral Descriptions

Concerning the “Dependent” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to exhibit the following behaviors to a moderate extent:

- Be a good follower
 - Listen, take advice, challenge, but when a decision is made be a committed employee

- Be predictable
 - State what you are going to do and follow through

- Willingly obey orders
 - There are situations that will require a clear command and control and members will be expected to follow and execute orders
 - Members are expected to practice three-part communication to test for understanding

Benefits

Centralized decision-making is sometimes required within a nuclear plant to execute emergency plans, maintain the design basis and conform to regulations. However, employees at all levels, while sensitive to the need to check certain decisions with superiors and to meet expectations, will not be constrained by the hierarchy, a lack of autonomy, or a fear of stepping out of line. They will be able to make decisions; question or challenge decisions made at higher levels; and will not be put in the position of having to follow orders they feel are wrong.

Perfectionistic

A slight to moderate amount of the “Perfectionistic” norm is desired in the Optimal Nuclear Culture. A Perfectionistic culture characterizes organizations in which perfectionism, persistence, and hard work are valued. Members feel they must avoid all mistakes, keep track of everything, and work long hours to attain narrowly-defined objectives. While some amount of this orientation is desired, too much emphasis on perfectionism can lead members to lose sight of the goal, get lost in details, and develop symptoms of strain.¹

Behavior Descriptions

Concerning the “Perfectionistic” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to exhibit the following behaviors to a great extent:

- Persist and endure
 - Members are expected to challenge status quo, never give up and to overcome challenges
- Appear competent and independent.
 - Members are expected to be competent and only perform work they are qualified and certified to do
 - Be self-confident, and take a position

To a moderate extent members are expected to:

- Never make a mistake
 - Perform up to high standards, use error prevention tools and techniques
 - If mistakes or errors are made, accept, report and learn from them
- Work long, hard hours
 - At times employees are expected to place a very high priority on work – be available for emergency situations
 - Employees will be expected to work long hours during outages
- Keep on top of everything
 - Keep tab of the big picture and what has been delegated
 - Delegate clear expectations and follow up with requested support
 - Keep others informed about progress and challenges
 - Own your work and be accountable
- Do things perfectly
 - Always do your very best to meet or exceed standards
 - Continuously improve own and others performance

Benefits

The moderate pressure for Perfectionistic behaviors will most likely promote a high expectation for competency and continuous improvement. Coupled with the strong expectations for high standards and excellence in the Achievement norm they should ensure high quality and reliability.

Approval

Generally speaking, the “Approval” norm is seldomly or only slightly expected in the Optimal Nuclear Plant Culture. An Approval culture describes organizations in which conflicts are avoided and interpersonal relationships are pleasant – at least superficially. Members feel that they must agree with, gain the approval of, and be liked by others. Though possibly benign, this type of work environment can limit organizational effectiveness by minimizing constructive “differing” and the expression of ideas and opinions.¹

Behavioral Descriptions

Concerning the “Approval” norm in the Optimal Nuclear Plant Culture, members of the organization are expected to exhibit the following behaviors to a slight to moderate extent:

- Stay on people’s good side
- Be a nice guy
- Make sure they are accepted by others
- Back up those with the most authority
- Be liked by everyone

Benefits

High to moderate expectations for Humanistic and Affiliative behaviors can possibly spill over into the Approval domain and be interpreted in ways that accentuate acceptance and harmony. Nevertheless, expectations for Approval norms in the Ideal culture are too weak to interfere with differing and constructive conflict. For example, members will not feel pressures to agree with everyone or to switch priorities simply to please others, and thus will not detract from excellent performance.

Conventional

A slight to a moderate amount of the “Conventional” norm is desired in the Optimal Nuclear Culture. A Conventional culture is descriptive of organizations that are conservative, traditional, and bureaucratically controlled. Members are expected to conform, follow the rules, and make a good impression. Too conventional a culture can interfere with effectiveness by suppressing innovation and preventing the organization from adapting to changes in its environment.¹

Behavioral Descriptions

Concerning the “Conventional” norm in the Optimal Nuclear Plant Culture, members are expected to exhibit the following behavior to a great extent:

- Always follow policies and practices
 - Members are expected to follow procedures and to stop and change them if they are wrong

To a slight to moderate extent, members are expected to:

- Make a “good impression”
- Treat rules as more important than ideas
- Conform

Benefits

An emphasis on following rules, procedures and documentation is necessary and strongly expected within the nuclear culture to ensure event free work, high quality, reliable and consistent outcomes. However, it is not so strong that members will feel pressure to accept things the way they are and to reject ideas that could lead to change or improvement.

Avoidance

A slight to a moderate amount of the “Avoidance” behaviors were identified as necessary for the Optimal Nuclear Plant Culture. An Avoidance culture characterizes organizations that fail to reward success but nevertheless punish mistakes. This negative reward system leads members to shift responsibilities to others and to avoid any possibility of being blamed for a mistake. The survival of this type of organization is in question since members are unwilling to make decisions, take action, or accept risks.¹

Behavioral Descriptions

Concerning the “Avoidance” norm in the Optimal Nuclear Plant Culture, Members are expected to never or only to a slight extent exhibit the following avoidance behaviors:

- Be non-committal
- Make “popular” rather than necessary decisions
- Take few chances
- Shift responsibilities to others
- Put things off
- “Lay low” when things get tough
- Never be the one blamed for problems
- Not get involved
- Wait for others to act first
- Push decisions upward

Benefits

Members will not feel that they need to wait for others to act first, be evasive, or “lay low” when things get tough. Nor will they feel pressures to make decisions that are popular rather than necessary. Overall, the Ideal culture will effectively minimize pressures for the type of self-protective behaviors that ultimately would interfere with members’ ability to get things done.

Power

A slight amount of the “Power” norm is desired in the Optimal Nuclear Culture. A Power culture is descriptive of non-participative organizations structured on the basis of the authority inherent in members’ position. Members believe they will be rewarded for taking charge and controlling subordinates (and being responsive to the demands of superiors). Power-oriented organizations are less effective than their members might think; subordinates resist this type of control, hold back information, and reduce their contributions to the minimal acceptable level.¹

Behavioral Descriptions

Concerning the “Power” norm in the Optimal Nuclear Plant Culture, members are expected to exhibit the following behavior from a slight to moderate extent:

- Act forceful
 - Be assertive, stand up for your position
- Use the authority of their position
 - Members are expected to use their role and knowledge to enhance safety and quality
- Stay on the offensive
 - Be persistent in raising significant issues
 - Be proactive, think ahead and plan
- Demand loyalty
 - Ensure understanding and commitment to standards and organizational goals
- Be hard, tough
 - Expect and hold self and others accountable for high standards

Benefits

At times members may need to use their positional authority to challenge the status-quo, group think, avoidant behavior and to force decisions when the situation calls for immediate action. However, it is best to delegate relevant tasks, educate and enlarge member’s sphere of influence.

Summary of the Environmental Factors and Interviews

Organizational cultures are influenced by external and internal environmental factors and by their nature evolve to help the organization survive and overcome these factors. The Optimal Culture Validation Team began its work by completing an assessment of past, present and future environment trends and by inquiring into the cultural conditions that support excellent, error free work. Each participant was asked to complete three, "Peak Performance" employee interviews, two environmental trends interviews, a new employee hire under 30 interview and read the book, "*Generations at Work, Managing the Clash of Veterans, Boomers, Xers, and Nexters in Your Workplace,*" by Ron Zemke, Claire Raines, and Bob Filipczak.

From this data gathering, the team formulated a set of criteria that was used throughout the validation and fine-tuning process. The following is a summary of the findings from this assessment.

Driving Environmental Trends

Deregulation has forced an increased attention to manage the financial aspects of the business. This economic driver may potentially detract attention from safety. In some organizations this is leading to a split in the workforce where some readily accept this added responsibility, while others are resistant to the added focus on managing costs

Anti-terrorism Enhanced Security has created a financial strain for some plants and added intrusion into people's lives. It also makes a nuclear power plant a less attractive workplace, given that it may be a target for terrorists.

The **Workforce** is aging and preparing to retire. Some employees are becoming tired and "burnt-out" and may not be willing to engage in the hard work required for the culture change efforts to succeed. There is substantial risk that the organizations will lose un-documented "Tribal Knowledge" as employees leave for retirement. There is mounting evidence that the new workforce will desire a fundamentally different culture than currently exists within the nuclear industry. These workers will not have the historical perspective that is integrated within the current workforce. The nuclear industry will be competing against other industries for a limited pool of qualified workers, and therefore a very attractive work culture will be a competitive advantage. There are early indications that the new workforce may be feeling isolated, they lack a strong peer group and they are concerned about the viability of nuclear as a long-term career path.

Alliances/Mergers/Acquisitions are requiring workers to be more flexible, adaptable and proactive. There is a greater need for workers who can quickly form new teams and take advantage of the diverse skills and points of view.

This also requires leaders to lessen their ego, become comfortable with short-term losses to achieve the long-term benefits from sharing resources across an alliance.

Downsizing and outsourcing like mergers and acquisitions increase employee's fear of job loss, as well as loss of identity – feeling forced to fit in. These often result in a loss of trust across the organization, creating a we/they culture.

Top Leadership/Manager turnover has created a confusing state for workers. Each new leader brings his/her style, preferences and “quick-fix” programs. A quasi-militaristic leader will often follow a more humanistic and inclusive leader causing employees to sit back and wait out the “next in a line of leaders who will come and go.” This revolving door has also created a strong set of sub-cultures within some nuclear plants and is seen as fragmenting and divisive.

Labor Relations with its focus on narrowly defined jobs may make it difficult to attract and retain a new workforce. The future workforce is looking for variety and challenging jobs where they can continuously learn and grow. Current workers desire clear expectations and a true “Partnership” with management.

Location of some plants will make it hard to attract and retain quality workers. This can be offset with an attractive work environment that meets the needs of the new generation. Regional cultural differences across the Alliance plants must be understood and considered when attempting to achieve the “Optimal” Culture.

Regulatory instability will be the rule. Changes in the regulatory environment will occur and require a culture that can readily adapt to these changes.

Nuclear is different. As a result of our power source, there remains a unique and awesome responsibility for event free work. The “performance bar” will continue to rise, and thus nuclear organizations must have a culture that focuses on learning and continuous improvement.

Future employee needs:

- Experienced, knowledgeable and accessible leadership
- The new generation of worker wants to work with co-workers not co-slackers
- Training, mentoring and coaching; consistent learning environment
- Access to older workers for mentoring – access to tribal knowledge
- Team oriented workplace that celebrates team achievement
- High levels of frequent and immediate feedback on their performance
- Fair benefits and compensation
- Work flexibility and at the same time job stability

- Challenging work environment where they can continuously learn something new
- Sense of belonging
- Treated fairly and respectfully
- Variety and challenging jobs

Peak Performance

The participants in this project completed over 75 individual interviews inquiring into the conditions that supported high quality, error free work. The following is a summary these cultural conditions:

- Clear roles and responsibilities, goals, objectives and performance measures
- Strong alignment, ownership and accountability to the outcome
- Employees were empowered to act – leaders got out of the way
- There was respect for special differences between individuals
- There was strong teamwork where members looked out for each other
- They received frequent positive reinforcement and recognition
- Communication flowed openly up, down and across
- Input of all persons valued and appreciated
- Managers eliminate barriers so everyone could fully participate

Impacts on Leaders

Leadership behavior, including what leaders model and teach, how they respond to crisis, what they measure and control, and whom they hire and promote, has great influence over the success of a culture change effort. Achieving the “Optimal” culture will likely require many leaders at all levels to change how they perform their leadership activities. It was to this end, that each Focus Group was asked to identify the impact the optimal culture will have on common leadership activities. It is noteworthy that both focus groups struggled to define impacts and alternatively, Constructive approaches to these activities. This is likely indicative of how deeply engrained the “Current” culture behaviors are within the leadership practices. Defining leadership behaviors that model the “Optimal” culture will require additional effort by the Community of Practice. The following is a summary of the activities and associated impacts.

Envisioning and Goal Setting refers to the way in which leaders develop, communicate and engage others in creating a meaningful vision and clear strategies and goals.

Leaders are encouraged to:

- Get input from as many levels as possible
- Visioning should be inclusive and meaningful to all groups
- Encourage innovation, independent thinking and more risk taking
- Focus goals on excellence and high standards, what you want to achieve
- Provide a framework and strategy
- Engage Managers and Supervisors in defining (What- tactical)
- Engage Supervisors and Worker in defining the (How) "Where the rubber hits the road"

Mentoring and Coaching refers to the way in which leaders initiate and promote learning, growth and development of others and encourage others to take initiative.

Leaders are encouraged to:

- Delegate responsibility and authority and coach performance. This requires giving up control.
- Encourage peer-to-peer coaching
- Be empathetic
- Proactively mentor and coach - don't simply fix problems
- Encourage appropriate risk taking, be tolerant of failures and focus on learning
- Walk-the-Talk and model the behavior you want
- Coach for continuous improvement
- Leverage the employee's strengths vs. highlighting weaknesses

Monitoring, Providing Feedback and Methods of Reinforcement refers to the way in which leaders notice employees' performance, provide feedback and motivate employees. To what degree should it focus on what is done correctly or focus on mistakes and deviations? How are rewards and recognition or punishment used?

Leaders are encouraged to:

- Overtly and aggressively seek out opportunities for positive reinforcement
- Make it a habit to observe work and identify positives
- Maintain and communicate high standards, provide feedback when standards are being met and engage the workers to identify and close gaps to excellence
- Use positive interventions and reinforce progress
- Coach in private, praise in public
- Interact with people informally
- Look for things done well – 3 to 1 ratio positive to negative
- Ensure that supervisors have the skills and knowledge for coaching and then reinforce this behavior

- Set high (realistic) goals and objectives and recognize progress as well as achievement

Influence refers to the way that leaders persuade others to think and act. To what degree should it be reciprocal and based on respect and mutual exchange?

Leaders are encouraged to:

- Ask for feedback and input from employees
- Communicate the “why’s” for improvement activities
- Accept responsibility for group’s performance
- Recognize the influence of position of leader and how the workforce may be impacted

Philosophy, Values and Beliefs refers to the basic set of values and beliefs that leaders hold regarding employees and how to motivate them to deliver high quality, error free work.

Leaders are encouraged to:

- Understand that each person has natural talents and look for ways to tap into that potential
- Ensure they are open to be challenged and questioned, explicitly state you are looking for feedback and input
- Communicate their personal philosophy and what is important to them (work & social)
- Inquire as to what the employees’ philosophy is and what is important to them
- Be available /Open door

- Fundamentally trust others
- Maintain tough-mindedness
- Understand impact of decisions on people and account for them
- High level of personal integrity

Conclusion

The conclusions drawn from this project strongly point to the need for the “Optimal” culture, as identified by the group of 123 employees completing the OCI and validated by the Optimal Culture Team and Focus Groups. The analysis comparing INPO’s attributes of high performing organizations and the principles of excellence in human performance also reveal strong alignment with the “Optimal” Culture. The Humanistic-Encouraging norm will meet the current and new employee’s needs for inclusion, feedback, coaching, mentoring and respect. The Affiliative norm will provide workers the teamwork they are seeking and the friendly, cooperative environment they desire.

The Achievement and Self-Actualizing norms will give all employees challenging jobs, learning opportunities and a chance to see how they contribute to the overall success of the organization. It will also encourage a commitment to achieving high standards and to continuously improve. Finally, the Oppositional norm will encourage the type of questioning attitude and rigor required to perform at the highest levels of excellence, ensuring the safe and reliable operation of a nuclear power facility.

The composite “Current” OCI makes it clear that there is a significant gap between the current culture within Alliance’s member plants and the newly defined “Optimal” culture. When asked during the Focus groups, most participants voiced support that the “Optimal” culture will produce a higher and more sustainable level of performance within a nuclear organization. However, senior leaders from two of the eight plants reported that they remain skeptical about whether the “Optimal” culture will result in error free routine work or that it will serve their needs for immediate improvement. There was unanimous support voiced for the “Optimal” culture from the manager, supervisor, and bargaining unit participants. Members of both Focus Groups expressed questions and concerns over the lack of knowledge about the strategies required to change a culture, CNO’s and other senior leadership’s commitment to engage in the required change and the capacity of their organizations to take on another “initiative.”

The next steps taken by the Alliance regarding this effort will need to take into account the need for education about the strategies and resources required to change culture. It will also need to facilitate a candid discussion about each member’s desire and commitment to engage in changing their current culture to become more aligned with the “Optimal” culture, and whether they wish to participate in an Alliance wide effort to support this change.

Group Participants:

Optimal Culture Team

Participant	Organization
Bill Illing	INPO
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Peggy Lucky	INPO
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Bob Paley	Susquehanna
Gary Weimer	Columbia
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Jim Werner	Fermi
Jenny Yunk	Wolf Creek
Steve Hopkins	Wolf Creek
Lynn Pressey	San Onofre
Mark Pucket	Fort Calhoun
Mike Fili	Cooper
Paul Carteaux	DC Cook
Rodger Duncan	Staff Consultant
Martin Marquardt	Tosan, Inc. Staff Consultant
Gerald Clarke	HSI, Staff Consultant

Senior Leader Focus Group

Participant	Organization
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Bob Schuelke	INPO
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Bob Paley	Susquehanna
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Fred Klauzer
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Martin Marquardt

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Fermi
Fermi
Wolf Creek
San Onofre
San Onofre
Fort Calhoun
Fort Calhoun
DC Cook
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Notes:

1. ©Human Synergistics, International 1996, 1998, 2002. The Organization Culture Inventory, Circumplex and Norm descriptions are copyrighted materials of Human Synergistics International, 39819 Plymouth Road, Plymouth, Michigan 48170.
2. Excellence in Human Performance, September 1997, Institute of Nuclear Power Operations, 700 Galleria Parkway, NW, Atlanta, GA.
3. Attributes of a High Performing Nuclear Organization, Institute of Nuclear Power Operations, 700 Galleria Parkway, NW, Atlanta, GA.

