



Diablo Canyon Power Plant Comprehensive Cultural Assessment

Executive Summary

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EXECUTIVE SUMMARY

I. Scope & Objectives of the Assessment

Consistent with the Pacific Gas & Electric Company (PG&E) strategy for continuous improvement, senior management of the Nuclear Power Generation group (NPG) commissioned SYNERGY to independently characterize and re-baseline the organizational culture at the Diablo Canyon Power Plant (DCPP), including the environment for addressing employee concerns. SYNERGY's experience includes having performed over fifty similar assessments covering more than twenty-five nuclear facilities and corporate locations.

A key objective was to confidentially survey employees at DCPP using the combined techniques of a written questionnaire and interviews. These feedback mechanisms and reviews of selected documentation provided the basis for understanding:

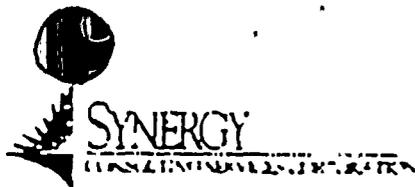
- ▶ Characteristic cultural values, behaviors and practices that have shaped and self-reinforced the DCPP organization's capabilities, infrastructure and environment for both nuclear safety and general business performance;
- ▶ Employee attitudes and perceptions of the effectiveness of the Employee Concerns Program (ECP) and related processes;
- ▶ General cultural, environmental or programmatic areas that may have an inter-dependent relationship with the Nuclear Safety Culture (NSC);
- ▶ General applied leadership, management and supervisory characteristics having a bearing on culture and performance; and
- ▶ Opportunities for further organizational development.

This summary documents the methodology, results, recommendations and conclusions applicable to these areas of the Assessment.

The scope of the survey was comprehensive in nature and also included an assessment of:

- ▶ DCPP's application of Facilitative Leadership™ principles; and
- ▶ Special topics of interest; e.g., the effectiveness of certain recent organizational changes.

These areas are reported separately from this summary.





II. Noteworthy Initial Environmental Conditions

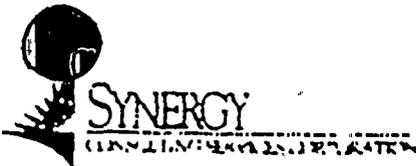
The Survey questionnaire was administered in October 1998 and the employee interviews were conducted in early November 1998. The following noteworthy environmental conditions were found to exist at DCPD during this time period:

- ◆ The State of California electricity de-regulation environment remained a significant uncertainty relative to the future status of DCPD and personal implications to PG&E employees.
 - This general situation was exacerbated by the then pending Proposition 9 referendum (November 1998) which had a nearer-term potential to adversely impact PG&E's ability to recover capital costs in preparation for the deregulated environment.
 - As part of PG&E's changing business emphasis/focus on the delivery of energy, the Company had recently sold (or was in the process of selling) all its generating assets with the exception of the nuclear facilities.
- ◆ PG&E's strategy for becoming more competitive included capturing approximately \$200 million dollars for cost savings. These savings were to be derived through:
 - Downsizing the workforce: Approximately 500 employee positions had been recently eliminated. Most had accepted severance packages, though some had retired or been terminated. The DCPD staffing targets were set at approximately 1,300.
 - Increasing revenue by reducing refueling outages to no more than 30 days and by reducing the associated outage costs to around \$30 million dollars; hence, the 30-30 plan. This part of the strategy also included maintaining high capacity factors.
 - Consolidating personnel: A small number of Engineering and technical personnel had been recently relocated from the Company's San Francisco offices to the DCPD site. Most either declined to relocate and terminated their employment or accepted positions with ALTRANS, a company with a preferred technical services agreement with PG&E.
- ◆ Actions associated with positioning for a more competitive business environment were resulting in:
 - General organizational re-alignments (and middle-management changes) and the need for business units to adjust to budgetary and staffing reductions.
 - Changes in business processes, most notably, the transition of maintenance activities into the Asset Teams (multi-disciplined teams responsible for specific assets and associated hardware.)
- ◆ There was a change in site senior management with the appointment of a new Vice President/Plant Manager (internal promotion).



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- ◆ Management had recently taken action to remove a shift foreman from duty (without access authorization) as a result of the Company's fitness-for-duty determination. This action was creating an adverse reaction by many in the workforce, in particular, by employees in the Operations department. This action also created an adverse reaction from the Maintenance department.
- ◆ Managers and supervisors had taken/were retaking the course "Managing for Nuclear Safety" which emphasizes the importance of nuclear safety, leadership's role in assuring a safety conscious work environment and specific behaviors that promote good employee relations.





III. Methodology

A. Overview

SYNERGY's approach relies heavily upon obtaining employee input as a measure of the values, behaviors and practices that have shaped the culture and performance and to solicit ideas for continuous improvement. SYNERGY's research indicates that employee attitudes and perceptions, and their evaluations of the effectiveness of key processes are important barometers of future performance trends.

A comprehensive questionnaire developed by SYNERGY was used to survey the workforce. All site employees were afforded the opportunity to respond to the Survey. Generally, the respondents completed the questionnaire anonymously during group meetings; however, opportunities were offered at the individuals' discretion to take the Survey at different times or locations. In either case, the completed forms were mailed directly to SYNERGY.

The multiple-choice questionnaire format provided an expanded database of information from which to base statistical analyses and to draw more precise inferences beyond what is possible through interview-based assessments alone. The questionnaire also included six questions that provided an opportunity for write-in comments. The write-in comments provided an opportunity to either further explain earlier responses or to add input in areas that may not have been adequately covered.

To assist SYNERGY in interpreting the response data, various demographic and organizational information was requested but not required; e.g. positions, worker categories, years of service and organizational affiliation. The representation of organizational affiliation at the Officer level/ Major Functional Organization (e.g. Nuclear Generation, Nuclear Technical Services, Nuclear Quality Services, Nuclear Business Unit), the Manager level Organization (e.g., Operations Services, Maintenance Services, Engineering Services) and the Director level Organization (e.g. the Radiation Protection organization within Operations Services) provided improved capability to isolate specific organizational strengths & problem areas and to examine specific cultural relationships within the context of potential change opportunities. Approximately nine hundred and eighty (980) employees and contractors responded to the survey, permitting the desired insights into demographic and organizational trends.

Interviews were held with a representative cross-section of approximately forty-five (45) employees at DCP. The interviews enabled probing of cause-effect relationships of selected feedback.

Together, the interview process and questionnaire were complementary in establishing a high degree of confidence that important issues were probed and identified as these apply to specific sub-organizations



B. Cultural Models:

The interviews and questionnaire were based upon cultural and leadership models developed by SYNERGY. These models are focused on the Nuclear Safety Culture (NSC), the General Culture and Work Environment (GCWE) and Leadership, Management and Supervisory (LMS) performance. Each model is sub-divided into a number of Dimensions, which are characterized through Attributes that define strong cultures and proven LMS skills. These Dimensions and Attributes were explored in detail through the questionnaire and interviews. The five Nuclear Safety Culture Dimensions and an abridged set of Attributes are presented in Table III.1.

Table III.1
Nuclear Safety Culture^o
(Five Dimensions with Abridged Attributes)

VALUES & PRIORITIES - widely held core beliefs, attitudes and institutions; e.g.,
Nuclear safety the first and over-riding priority, continuous improvement through pro-
active self-assessment, etc.

BEHAVIORS - aggregate of commonly desired actions, reactions and interactions; e.g.,
Self-critical and questioning attitudes, conservative and well balanced decision-making,
etc.

PRACTICES & PERFORMANCE - established methods of doing business; e.g.,
Effective alignment and allocation of resources in proportion to significance and needs;
effective work processes and programmatic elements including the corrective action
program, self-assessment, work control, operating experience, incorporation of industry
best-practices, safety analysis and review, configuration control; operations,
maintenance and modifications in accordance with licensing and design bases, etc.

WILLINGNESS TO PURSUE NUCLEAR SAFETY CONCERNS- the overall
climate and effectiveness in addressing potential nuclear safety concerns; e.g.,
Absence of barriers that impact the ability to identify and pursue resolution, strong
management and supervisory support, sensitivity and responsiveness, etc.

EMPLOYEE CONCERNS PROCESS - employee confidence in alternative avenues for
concerns resolution; e.g.,
Visibility and cultural acceptance, user-friendly, track record of responsiveness and
effective solutions, etc.

SYNERGY evaluated the GCWE to explore any inter-dependent relationships with the Nuclear Safety Culture. The structure of the General Culture and Work Environment model (shown in Table III.2) includes four Dimensions and parallels that of the Nuclear Safety Culture model.





Table III.2

General Culture & Work Environment^o
(Four Dimensions with Abridged Attributes)

- VALUES & PRIORITIES** - widely held core beliefs, attitudes and institutions; e.g.,
Attention to details, strive to improve performance, focus on meeting general business objectives, promoting workforce involvement, etc.
- BEHAVIORS** - aggregate of commonly desired actions, reactions and interactions; e.g.,
Teamwork, communications and feedback, professionalism, etc.
- PRACTICES & PERFORMANCE** - established methods of doing business; e.g.,
Management of priorities and resource allocation; work management and control;
technical training, investment to develop enhanced capabilities and tools, etc.
- WORK ENVIRONMENT** - the overall climate within the workplace; e.g.,
General supervisory-employee relations; safe physical environment, overall job satisfaction and morale, etc.

Attributes from SYNERGY's comprehensive LMS model were evaluated to improve understanding of potential LMS-driven cause-effect relationships with either the NSC or the GCWE. The LMS model has three Dimensions as shown in Table III.3.

Table III.3

Leadership, Management & Supervision^o
(Three Dimensions with Abridged Attributes)

- LEADERSHIP PERFORMANCE** - establishing direction, aligning people and resources, motivating and inspiring; e.g.,
Establishing, communicating and reinforcing Vision, standards and expectations and priorities; walking-the-talk, etc.
- BUSINESS MANAGEMENT PERFORMANCE** - aggregate of activities focused on orderly and efficient management of the business; e.g.,
Planning, managing change, budgeting, staffing, control and problem-solving, etc.
- PERSONNEL MANAGEMENT & DEVELOPMENT PERFORMANCE** -
establishing the environment and incorporating appropriate developmental methods to attract, retain and develop human resources that are motivated and capable; e.g.,
Establishing an environment of mutual respect and trust; coaching and mentoring; empowerment, personnel performance management, etc.

Common questions were utilized in exercising the LMS and GCWE models, but the responses to these questions were aggregated differently to gain specific insights.



C. Analytical Techniques:

The questionnaire (see Appendix A) included 37 multiple-choice questions with 204 total sub-parts that explored the Dimensions of the Nuclear Safety Culture (NSC), General Culture and Work Environment (GCWE) and Leadership, Management and Supervisory (LMS) models. There also were six opportunities to provide write-in comments.

The multiple-choice questions were generally designed as "positive" statements to which the respondents rated their degree of agreement or disagreement. A number of questions asked for ratings of "adequacy" of an area of performance or the environment.

The following response scales were utilized:

Fully agree (5) Strongly agree (4) Generally agree (3) Disagree (2) Strongly disagree (1)

and

Excellent (5) Very good (4) Adequate (3) Less-than-adequate (2) Inadequate (1)

Thus, the response scales were asymmetric and anchored about a numerical mid-point of "3", with means greater than or equal to 3.00 representing either a "positive or adequate" response/rating and less than 3.00 representing either a "negative or less-than-adequate/inadequate" response/rating.

SYNERGY computed the response distributions, means and standard deviations by Functional Organizations at three levels (i.e., Officer level, manager level, and Director level organizations), worker categories, employee positions and years of service for each question and for the set of questions that make up each of the Dimensions. The Dimensions provided a means of consolidating the analysis and taking a broader view of the collective feedback. Composite Cultural Indicators (CCI) for the NSC, GCWE and LMS were calculated by weighting each Dimension in the respective cultural models.

The analysis looked beyond statistical means to identify any skewing of the employee response data towards extremes, particularly for the "negative" side of the response distributions. Negative responses represent the summation of "disagree (2)" and "strongly disagree (1)" or "less-than-adequate (2)" and "inadequate (1)" responses, in accordance with the above five point response scales. While an organization's mean may appear in an acceptable range, e.g. greater than or equal to 3.00, high percentages of negative responses provide an indication of stratification or negative "pockets" (arbitrarily defined as greater than a 15% negative response rate for a NSC Dimension and as greater than a 20% negative response rate for a GCWE or LMS Dimension). Such locales may require further validation or special attention to correct underlying weaknesses or to fully engage the employees

Complementing the Dimensional analyses, SYNERGY evaluated six specific "areas of inquiry" derived from the Survey and/or interviews; Identification/Resolution, Management Influence, the



Employee Concerns Program, Personal Experience and overall ratings of the NSC (each described in Section VII). These areas have been consistently probed in each of SYNERGY's Nuclear Safety Culture assessments, yielding a significant database of industry information. In addition to providing internal trending and benchmarking capability with nuclear utilities, these data are weighted and combined within an Integrated Performance Indicator (IPI) that has been correlated (as a leading indicator) to future performance trends.

D. Additional Comparisons

At NPG management's request, SYNERGY reviewed information from a Safety Culture Assessment performed for PG&E/NPG by another consulting firm in early 1997. The purpose of this review was to determine whether meaningful trending information could be obtained. Subject to the application of appropriate adjustments to reflect survey differences (e.g., in question content, rating scales, etc.), the development of meaningful, qualitative trending information was found to be feasible. The results of this comparison are presented in Appendix I.



IV. Assessment Results

A. Response to the Survey:

The overall response rate of 62% (refer to Table IV.1) was acceptably large to draw necessary conclusions. Organizational affiliation was provided by approximately 84% of the respondents, thereby permitting meaningful "pocket" analysis for most organizations.

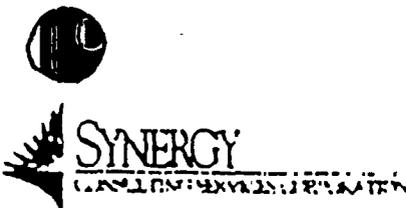
Table IV.1
Survey Response

Total No. Employees & Contractors	Number of Employees & Contractors Responding	Response Rate
1,584	979	61.8 %

If one assumes a random response pattern, then the site response rate is sufficient to estimate results with greater than a 95% confidence with less than a 5% margin of error (referred to as a 95/5). For Officer level /Major Functional Organizations, response rates ranged from a low of 47% to a high of 87%, providing over a 95/5 confidence level/margin of error for three of the four Major Functional Organizations. The Nuclear Business Unit organization was the exception, having an estimated 80/5 confidence level/margin of error. For the Manager level/ Functional Organizations, response rates ranged from a low of 37% to a high of 64%, providing between a 95/5 and 80/5 confidence level/margin of error. Key organizations at this level (i.e., Operations Services, Maintenance Services, and Engineering Services) had sufficient response rates to provide a 95/5 confidence level/margin of error.

Generally, the confidence levels for the smaller units are lower. For the Director level organizations, response rates ranged from a low of 0% to a high of 90%. Most of these organizations are estimated as having between 80/10 and 75/10 confidence levels/margins of error.

Response rates from the following Director level organizations were too low to allow any meaningful organization-specific conclusions to be drawn: Emergency Planning, Project Management, and Business Planning. Similarly, seven "other" categories were also dropped from further organization-specific analysis. All inputs were included in appropriate "roll-up" categories





B. Summary of Responses to the Interviews & Questionnaire:

The responses to the highest and lowest rated multiple-choice questions, the most frequently cited write-in comments and the interview issues and themes provide significant insight into areas of relative strength and opportunity. Generally, the most positive responses are associated with the NSC, while the least positive responses are associated with the GCWE and LMS. The responses to selected highest and lowest rated multiple-choice questions are summarized in Appendix C. Over 1700 write-in comments were categorized to determine the frequency distributions provided in Appendix D. The interview issues and themes are summarized in Appendix E. These issues and themes and the write-in comments are very consistent with the Survey responses.

Organizational Strengths:

It is clear from the positive responses to the Survey that a high fraction of employees (positive response percentage shown in parentheses):

1. Feel a responsibility to identify potential nuclear safety concerns and write Action Requests (96.1%), would inform their supervision (98.3%) and would feel supported for having done so (93.5%). If not satisfied, employees would take the concerns further up the management chain (88.6%).
2. Believe that nuclear safety is the first and over-riding priority at DCPD (90.8%) and that behaviors and practices are consistent with this priority (90.1%).
3. Believe that the DCPD plant is operated, maintained, and modified in accordance with licensing and design basis requirements (97.7%).
4. Believe that expectations and standards for nuclear safety performance are adequately communicated in general across the site (94.7%) and specifically as these apply to people's jobs (95.0%).
5. Are confident in their ability to do their current job well (98.1%). They perceive that their work group strives to improve performance (95.2%) and identifies its own problems (93.5%). Also, they believe that they are held appropriately accountable for performance by their supervision (90.7%).
6. Feel their peers are generally quality consciousness & pay attention to details (96.2%), are self-critical and have questioning attitudes (94.8%), and adhere with procedural requirements as a means of assuring nuclear safety (90.8%).
7. Do not perceive the prospect of increasing their workload (93.6%) or of adversely affecting schedule/missing goals (95.3%) as barriers currently affecting willingness to identify and pursue resolution of a potential NS issue.

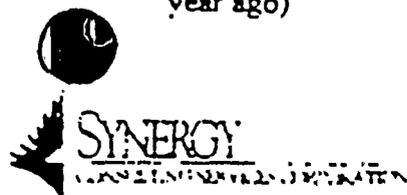
The associated values, behaviors and practices are unquestionably helping to sustain DCPD's nuclear safety performance.



Organizational Opportunities:

The less positive responses suggest a need to address certain general business practices, and leadership, management and supervisory skills and performance that may represent precursors that could potentially have an adverse impact on continued performance improvement. In particular, some employees (negative response percentages shown in parentheses):

- 1 Perceive opportunities to improve the work environment by generally treating everyone with greater dignity, trust and respect (32.4%) and by having more managers deal in a straightforward, honest and truthful manner (36.4%). These perceptions are likely related to some employees' comfort level (lack) in voicing general opinions and ideas (34.2%) and feelings that some managers have not managed conflicts and disagreements effectively (35.4%), have not responded to employee relations issues consistently and fairly (32.1%) and have not built people's pride, self-esteem and commitment to the organization adequately (45.5%). Additionally, some believe that DCPD has not implemented employee discipline policies effectively (47.9%).
- 2 Believe that managers and supervisors need to improve their coaching of employees to enhance employee development (45.5%) and to facilitate clear thinking, honest communication and creative problem-solving (39.8%).
- 3 Feel that their performance and accomplishments are not recognized sufficiently (30.7%) and are not appropriately linked to individual compensation adequately (45.5%). These feelings are related to perceptions that DCPD does not have an effective performance appraisal process (53.7%) or effective rewards programs (38.2%) and that some managers and supervisors are not appropriately recognizing and rewarding achievement in general (37.1%).
- 4 Believe that DCPD needs to become more effective in planning and implementing changes in the way we do business (37.2%), and that management and supervision needs to obtain greater employee input, buy-in and ownership up-front before implementing significant changes (50.1%). This is related to perceptions that managers need to demonstrate that they genuinely care about how people feel about their involvement and contributions (41.6%), need to provide more meaningful opportunities for involvement and contributions (36.9%), and need to give those closest to the work, appropriate decision-making authority (36.9%).
- 5 Perceive that the senior management team needs to be more visible & accessible (37.9%), and to set a more positive example by "walking the talk" (38.5%).
- 6 Feel that management and supervision needs to communicate more effectively regarding the future of DCPD (38.3%), to provide a clearer map of the road ahead and how goals and objectives will be achieved (39.7%), and to identify and remove barriers that adversely impact work (35.7%)
- 7 Have declining job satisfaction and morale, based upon factors such as growth opportunities, rewards, and having a professional working environment (38% vs. 28.5% a year ago)





C. Nuclear Safety Culture Trends & Industry Comparison

Integrated Performance Indicator (IPI)

The composite 1998 Nuclear Safety Culture IPI rating for DCPD is 3.47, which is in the "average to good" range. This composite rating places DCPD near the middle (51st percentile) of the nuclear industry plants surveyed by SYNERGY¹.

The "rear view mirror" rating² of the 1997 NSC-IPI for DCPD is 3.44. Accordingly, using this method, the trend line for 1997-1998 is determined to be essentially flat. This "steady" trend was confirmed through a comparative analysis of data (as adjusted) from a survey performed by another consultant in early 1997.³

Based on SYNERGY's experience, the relatively steady NSC indicators at DCPD suggest that additional positive action will be required to achieve improvement in the NSC over the next 12-18 months.

NSC IPI ratings are presented for each of DCPD's four Officer level/Major Functional Organizations in Table IV.2.

Table IV.2
NSC Integrated Performance Indicators
for DCPD Major Functional Organizations

Organization	Integrated NSC PI	Approx. Industry Rank (Percentile)	Estimated Change '97-'98
Nuclear Generation	3.39	38%	Flat
Nuclear Technical Svcs.	3.64	74%	Flat
Nuclear Quality Services	3.75	84%	+4%
Nuclear Business Unit	3.74	84%	Flat
<i>DCPD Site-Wide</i>	<i>3.47</i>	<i>51%</i>	<i>Flat</i>

The NSC IPI ratings for NTS, NQS, and NBU are more than a quartile higher than the rating for NG

¹ A cross-section of higher and lower performing plants, representing approximately 1/3 of the total units in service

² While SYNERGY had not previously assessed the DCPD culture, inquiries were made to determine perceived trends. For a number of key questions, survey respondents provide individual ratings for two time frames: "today" and "approximately 1 year ago." This input is valuable in determining the employees' assessment of direction and rate of progress/decline

³ The results of this comparative analysis are provided in detail in Appendix I.





Six "Areas of Inquiry":

Appendix B contains graphical representations of the trends for the six "areas of inquiry" for "1997" and 1998. A summary of the 1998 results is presented in Table IV.3. These are site-wide composite results.

Table IV.3
DCPP Site-Wide Results for the Six Individual "Areas of Inquiry"

Area of Inquiry	Metric	Estimated Change '97-'98
Willingness	3.67	Flat
Management Influence	3.34	Flat
Employee Concerns Program	3.32	Flat
Performance - Ident./Resol.	3.67	+4%
Personal Experience/Satisfaction	2.86	-7%
Overall Assessment of NSC	3.65	Flat

In terms of willingness and likelihood of reporting and pursuing resolution of potential nuclear safety issues or concerns, employees rate today's environment in the "adequate to good" range. This rating places DCPP at approximately the 41st percentile for the nuclear industry. Employees perceived little or no change in this area over the last year.

Employee perceptions of management's influence on the NSC and environment, i.e., "walking-the-talk" and "leading by example," place DCPP at approximately the 36th percentile for the nuclear industry. Employees perceived little or no change in this area over the last year.

Overall employee confidence in the Employee Concerns Program (ECP) placed DCPP at approximately the 73rd percentile for the nuclear industry. Employees perceived little or no change in this area over the last year.

Ratings of DCPP's actual performance in identifying and resolving potential nuclear safety issues reflect notable improvement over the last year and place DCPP at approximately the 65th percentile for the nuclear industry.

Approximately 38% of employees (versus 28.5% a year ago) are not satisfied with their overall personal experience because of a variety of issues affecting their morale, growth potential and work environment. This factor appears to be trending in a negative direction and will require additional management attention to assure no adverse impact on the NSC. These results place DCPP at approximately the 19th percentile for the nuclear industry. (It is important to note that declining ratings in this area are common throughout the utility industry at this time because of increasing pressures on the nuclear workforce due to competition, ever increasing performance expectations and other factors.)





D. Cultural Dimension Trends

The Dimensions of each of SYNERGY's three cultural models were explored individually and collectively⁴. The following sections provide the Dimensional results in terms of statistical means

Nuclear Safety Culture Dimensions:

For the DCPD Officer level/Major Functional Organizations⁵, employee ratings of the Nuclear Safety Culture are in the "adequate to good" range. As indicated in Table IV.4, ratings in the Nuclear Generation organization are noticeably lower than ratings in the other three Major organizations. Overall, the NSC Dimensions with the greatest opportunity for improvement are "Practices and Performance" and the "Employee Concerns Program".

Table IV.4
NSC Dimensions

Dimension	DCPP	NG	NTS	NQS	NBU
Values & Priorities	3.66	3.59	3.84	3.88	3.83
Behaviors	3.64	3.55	3.83	3.96	3.75
Practices & Performance	3.50	3.44	3.66	3.50	3.65
Willingness	3.78	3.70	3.97	4.08	3.95
Employee Concerns Program	3.27	3.14	3.46	3.80	3.64
NSC Composite Cultural Indicator	3.61	3.53	3.80	3.86	3.79

With respect to Practices and Performance, the following areas were noted as requiring additional management attention:

- ◆ Ensuring the effectiveness of self-assessment activities.
- ◆ Timeliness of response to ARs.
- ◆ Close-out of ARs with feedback to the originator of the concern.

⁴ The collective, weighted rating within each of SYNERGY's three cultural models is designated as a "composite cultural indicator"; e.g., the NSC Composite Cultural Indicator (CCI). In particular, the NSC CCI should not be confused with the NSC Integrated Performance Indicator (NSC-IPI) that is derived from the "Six areas of inquiry".

⁵ Tables IV.4 through IV.10 Functional Organization designations: NG = Nuclear Generation; NTS = Nuclear Technical Services; NQS = Nuclear Quality Services; NBU = Nuclear Business Unit.



With respect to the Employee Concerns Program, the following areas were noted as requiring additional management attention

- ◆ Increased Program visibility, particularly within the Nuclear Generation organization.
- ◆ Increased visibility of senior management support of the ECP as a viable alternative path to raise concerns
- ◆ Increased provision of information regarding the accomplishments/results of the ECP (to increase employee confidence)

General Culture & Work Environment Dimensions:

For the DCPD Officer level/Major Functional Organizations, employee ratings of the General Culture & Work Environment are generally in the "adequate/acceptable" range.⁶ As indicated in Table IV.5, ratings in the Nuclear Quality Services organization are noticeably higher than the ratings in the other three Major organizations and are 11% higher than the site mean. Ratings in the Nuclear Technical Services organization are nominally higher (4%) than the site mean and ratings in Nuclear Generation organization are nominally lower (3%) than the site mean.

Overall, the GC&WE Dimension with the greatest opportunity for improvement is "Practices and Performance".

Table IV.5
GC&WE Dimensions

Dimension	DCPP	NG	NTS	NQS	NBU
Values & Priorities	3.21	3.12	3.37	3.50	3.35
Behaviors	3.27	3.18	3.44	3.64	3.28
Practices & Performance	3.13	3.01	3.29	3.51	3.14
Work Environment	3.22	3.15	3.35	3.58	3.29
GC&WE Composite Cultural Indicator	3.21	3.12	3.35	3.56	3.27

With respect to Practices and Performance, the following areas were noted as requiring additional management attention:

- ◆ Communicating effectively regarding the Company's (PG&E and NPG) Vision for DCPD.
- ◆ Improvements in the effective use of coaching to develop and motivate personnel

⁶ The level of negative attitudes & perceptions about the General Culture & Work Environment are approximately a factor of 2.0 higher than similar areas applicable to the Nuclear Safety Culture (with correspondingly lower Dimension ratings). These results are typical with others in the industry.





- ◆ Improvements in the ability to recognize and reward achievement and to utilize "pay for performance".
- ◆ Improvements in the involvement and engagement of the workforce in the decision-making process.

Leadership, Management & Supervision Dimensions:

For the DCPD Officer level/Major Functional Organizations, employee ratings of Leadership, Management, and Supervisory Practices (LMS) are generally in the "adequate/acceptable" range. As indicated in Table IV.6, ratings in the Nuclear Quality Services organization are noticeably higher than ratings in the other three Major organizations and are 11% higher than the site mean. Overall, the opportunities for improvement are approximately the same for all three LMS Dimensions. On a site-wide basis, the LMS Composite Cultural Indicator is the lowest rated of the three cultural models

Table IV.6
LMS Dimensions

Dimension	DCPP	NG	NTS	NQS	NBU
Leadership	3.13	3.05	3.26	3.46	3.25
Business Management	3.12	3.04	3.24	3.44	3.20
Personnel Management	3.11	3.02	3.25	3.52	3.10
LMS Composite Cultural Indicator	3.12	3.04	3.24	3.47	3.18

With respect to Leadership, the following areas were noted as requiring additional management attention

- ◆ Provide a clear map of the road ahead and of how NPG's goals and objectives will be achieved
- ◆ Ensure that the environment is one where people feel safe to voice their opinions and ideas.

With respect to Business Management, the following areas were noted as requiring additional management attention:

- ◆ Improve the change management process, including meaningful, early involvement of those affected by the changes.
- ◆ Increase focus on identifying and removing barriers that adversely impact work.
- ◆ Increase focus on ensuring that self-assessment activities are worthwhile and effectively implemented

With respect to Personnel Management & Development, the following areas were noted as requiring additional management attention:

- ◆ Ensure that the performance appraisal process is meaningful and effective.
- ◆ Improve the effectiveness of employee discipline policies.



- ◆ Build people's pride, self-esteem and commitment to the organization.
- ◆ Develop people through effective coaching.

E. Analysis of Potential for a Chilled Working Environment⁷

In evaluating indicators/precursors of a potential chilled environment at DCP, several groups of questions were reviewed.

1. Questions targeted at an individual's personal experience within his/her work group and with his/her immediate supervision and management. (See Table IV.6).
2. Questions targeted with an individual's personal experience within his/her work group and with his/her peers. (See Table IV.7).
3. Questions targeted at an individual's perception of the work environment beyond his/her local work area and/or beyond his/her personal experience. (See Table IV.8).

Table IV.6
Indicators/Precursors of a Potential Chilled Environment at DCP
Personal Experience at Local Work Level - Supervision & Management

Question/Topic	DCPP	NG	NTS	NQS	NBU
Work Environment is Professional & Open; Free of HID ⁸ - My Work Group	3.73 (12.3%) ⁹	3.58	3.98	4.29	3.88
Receptivity of immediate supervisor to workers who raise safety/quality issues	3.91 (6.4%)	3.80	4.10	4.31	4.00
Personally have received negative reaction from Supvr/Mgmt for raising safety issue	4.13 (9.8%)	4.08	4.22	4.37	4.50
Barrier to raise/pursue potential safety issue - neg. reaction from Supvr/Mgmt	3.82 (13.4%)	3.73	4.06	4.11	4.16
Barrier to raise/pursue potential safety issue - concern re:HID by Supvr/Mgmt	3.80 (13.6%)	3.70	4.06	4.04	4.21
Barrier to raise/pursue potential safety issue - viewed as complainer	3.66 (16.1%)	3.56	3.89	3.83	3.95

The information presented in Table IV.6 indicates that employees are generally very comfortable with their local work environment in terms of perceived openness and receptivity of immediate

⁷ The results of additional related analyses are reported in Appendix F. Those analyses are focused on the identification of any organizational "outliers" at the Director-level.

⁸ HID = Harassment, Intimidation, or Discrimination.

⁹ In Tables IV.6, IV.7, and IV.8, IV 9, and IV.10, negative response percentages are provided in parentheses.



supervision and immediate management to potential safety or quality issues/concerns. Ratings for the site and for the Officer-level/Major Functional organizations are generally in the "good to very good" range. Ratings within the Nuclear Generation organization are noticeably lower than the other three Major organizations.

Table IV.7
Indicators/Precursors of a Potential Chilled Environment at DCPD
Personal Experience at Local Work Level - Peers

Question/Topic	DCPP	NG	NTS	NQS	NBU
Personally received negative reaction from peers for raising safety issue	4.21 (7.30%)	4.17	4.37	4.21	4.50
Barrier to raise/pursue potential safety issue - negative reaction from peers	3.93 (8.7%)	3.87	4.14	4.11	4.07

The information presented in Table IV.7 indicates that employees are generally very comfortable with their local work environment in terms of the perceived openness and receptivity of their peers to potential safety or quality issues/concerns. Ratings for the site and for the Officer-level/Major Functional organizations are generally in the "good to very good" range. Ratings within the Nuclear Generation organization are nominally lower than the other three Major organizations.

Table IV.8
Indicators/Precursors of a Potential Chilled Environment at DCPD
Perceptions of General Site Work Environment

Question/Topic	DCPP	NG	NTS	NQS	NBU
Work Environment is Professional & Open; Free of HID - My Funct. Org	3.55 (14.6%)	3.41	3.79	4.09	3.68
Work Environment is Professional & Open; Free of HID - DCPD Site	3.34 (18.1%)	3.30	3.43	3.51	3.42
Receptivity of Managers/Directors to workers who raise safety/quality issues	3.35 (16.5%)	3.17	3.55	4.09	3.76
General Receptivity at DCPD to workers who raise safety/quality issues	3.29 (19.2%)	3.16	3.49	3.78	3.63
Know someone who received negative reaction from Supvr/Mgmt for raising safety issue	3.36 (30.1%)	3.24	3.58	3.95	3.85

The information presented in Table IV.8 indicates that employees perceive the general work environment at DCPD to be less open and receptive than their own immediate work environment. Ratings for the site and for the Officer-level/Major Functional organizations are generally in the



"adequate to good" range. Ratings within the Nuclear Generation organization are noticeably lower than the other three Major organizations. Over 30% of survey respondents indicated that they personally know someone who had received a negative reaction from supervision or management during the last year for having raised an issue or concern related to nuclear safety.

F. Analysis of Individual Willingness to Take Appropriate Action¹⁰

In evaluating indicators of individual willingness to take appropriate action, given the perceived work environment at the local and/or site level, several groups of questions were reviewed.

1. Questions targeted at an individual's personal willingness to act to identify a potential nuclear safety issue/concern by informing his/her supervisor and/or by documenting the problem in an AR. (See Table IV.9).
2. Questions targeted at an individual's personal willingness to continue to pursue and/or escalate an issue up the management chain if not fully satisfied by the response of his/her supervision. (See Table IV.10).

Table IV.9
Indicators of Individual Willingness to Take Appropriate Action at DCPD
Inform Supervisor/Write AR

Question/Topic	DCPD	NG	NTS	NQS	NBU
Everyone has a responsibility to identify potential NS issues and to write an AR	4.13 (3.9%)	4.09	4.42	4.46	3.95
You should inform your supervisor if you identify a potential NS issue	4.08 (1.6%)	4.07	4.22	4.29	3.96
I would feel supported in reporting a potential NS issue to my supervisor	3.95 (6.5%)	3.87	4.18	4.27	3.91
If I identified a potential NS concern, I would inform my supervisor	4.42 (1.7%)	4.36	4.63	4.60	4.35
If I identified a potential NS concern, I would write an AR	4.00 (10.8%)	3.97	4.31	4.47	3.60

The information presented in Table IV.9 indicates that the vast majority of employees would take action to inform their supervisor and/or to write an AR if they identified a potential NS issue or concern. Ratings for the site and for the Officer-level/Major Functional organizations are generally in the "very good" range. Ratings within the Nuclear Quality Services and the Nuclear Technical Services organizations are noticeably higher than the other two Major organizations.

¹⁰ The results of additional related analyses are reported in Appendix F. Those analyses are focused on the identification of any organizational "outliers" at the Director-level.



It appears that the lower ratings within the Nuclear Business Unit may be due to the fact that some NBU personnel do not normally work with the AR system.

Table IV.10
Indicators of Individual Willingness to Take Appropriate Action at DCPD
Push/Escalate to Management

Question/Topic	DCPD	NG	NTS	NQS	NBU
Everyone has a responsibility to pursue the resolution of potential NS issues	3.74 (10.6%)	3.70	3.91	3.92	3.63
I would feel supported in reporting a potential NS issue to my management chain, if not satisfied by my supervision.	3.64 (15.5%)	3.53	3.87	4.04	3.60
If I identified a potential NS concern and was not satisfied with supervisor's response, I would escalate to mgmt chain	3.98 (11.4%)	3.91	4.23	4.13	3.78

The information presented in Table IV.10 indicates that the most employees would push for resolution and escalate a potential NS issue or concern to management, if they were not satisfied with their supervisor's response. Ratings for the site and for the Officer-level/Major Functional organizations are generally in the "good" range. Ratings within the Nuclear Quality Services and the Nuclear Technical Services organizations are noticeably higher than the other two Major organizations.

Comparison of the information in Tables IV.9 and IV.10 indicates that, while individual willingness to escalate to management is "good", it is not as strong as individual willingness to inform supervision

G. Demographic Analysis

Employee Categories:

Salaried personnel generally provided more favorable responses than hourly personnel. The NSC CCI was 13% higher for the salaried personnel. Similarly, the GCWE CCI was 10% higher for the salaried personnel. For both the NSC and the GCWE, this equates to approximately a two quartile variance between salaried and hourly personnel.

Responses of longer-term contractors were essentially 3% more favorable than the DCPD composite for the NSC and were 8% more favorable for the GCWE.

Too few short-term contractors responded to the survey to allow meaningful analysis.



Employee Positions:

By positions, employees provided the most-to-least favorable responses as follows:

Managers...first line supervisors...technical staff...support staff...craft

Years of Service:

Those with the fewest years of service generally provided more favorable responses than employees with more longevity.

H. Relative Organizational Trends

Objectives:

SYNERGY has implemented a methodology to identify any specific organizations that are actual or potential outliers with respect to DCPD site-wide ratings and/or Major Functional Organization composite ratings. The methodology incorporates a capability to suggest relative priorities for further evaluation of any identified organizational outliers.¹¹

Methodology Summary:

Cultural Dimensions were utilized to investigate relative organizational strengths and weaknesses by incorporating three complementary analytical techniques:

Dimensional Means - were computed for each Director-level organization and compared with the respective DCPD composite means to determine relative differences, or the degree to which an organization exceeds or departs from the "norm." The Dimensional means are determined based upon weighting of survey questions that are assigned to the respective Dimensions. Differences in the Dimensional means of less than 5% were considered to be within the norm (corresponding to approximately the middle 50 to 60% of the DCPD organizations). Differences in the Dimensional means of between 5 and 10% (upper or lower quartile organizational ranking) and over 10% (upper or lower decile organizational ranking) were identified. The Figures in Appendix F show single arrows corresponding to the 5-10% variations and double arrows corresponding to the greater than 10% variations.

¹¹ In several instances, this general method of identifying organizational outliers (either by deviation from the mean or by negative response percentage) was utilized on an individual question basis rather than on a cultural dimension basis. These special analyses were performed in addition to the analyses of each cultural dimension. These special analyses were performed to provide additional insights into "Indicators/Precursors of a Potential Chilled Environment at DCPD" and into "Indicators of Individual Willingness to Take Appropriate Action at DCPD".



Dimensional Negative Response - represents that fraction of an organization providing "negative" ratings. The Dimensional negative response percentages are determined based upon weighting of survey questions that are assigned to the respective Dimensions. Organizational "pockets" are identified based upon an organization having an arbitrarily defined, greater than a 15% negative response rate for a NSC Dimension or greater than a 20% negative response rate for a GCWE or LMS Dimension. The Figures in Appendix F show negative pockets as shaded regions.

Composite Cultural Indicators - represent weighted averages of the Dimensions comprising each of SYNERGY's NSC, GCWE and LMS cultural models, i.e. three separate indicators. The Figures in Appendix G show these indicators are strongly correlated; i.e. after regression analysis, yielding a Coefficient of Determination of 0.76 between the NSC and GCWE Dimensions and a Coefficient of Determination of 0.76 between the NSC and LMS Dimensions.¹² (Refer to additional discussion in Section VII.)

SYNERGY utilized a criteria of "lower quartile" to identify an initial set of organizational units with "low" Composite Cultural Indicators¹³ (Criterion 1). This 25th percentile line of demarcation is shown as a dashed line in the Figures in Appendix G. The zones correspond to the priority designations identified in Table IV.11. These criteria were supplemented by identifying organizations with negative "pockets" (Criterion 2).

Table IV.11
Priorities for Validation, Intervention or Remediation

Priority	Status of Cultural Indicators
1	Low NSC and GCWE or LMS
2	Low NSC, but acceptable GCWE and LMS
3	Acceptable NSC, but low GCWE or LMS
4	Acceptable NSC, GCWE and LMS, but have selected pockets

¹² Relative departures from the correlation may be indicative of either immediate or future needs for validation, intervention or remediation. For example, if the NSC indicator is adequate, but the GCWE is not, this could indicate risk to the NSC if the causal factors are not proactively addressed. Such relationships can be identified and assigned priorities as shown in Table IV.11.

¹³ "Low" in this context is relative to the other organizations at the DCPD site.



Department/Division Results:

Tables IV.12 and IV.13 show the Top and Bottom Quartile organizations for the NSC, GCWE and LMS at DCP. The DCP Organizational Structure¹⁴ and the associated organizational identification codes utilized in this Assessment are shown below.

14 DCP Organizational Structure:

Nuclear Generation (NG)

Operations Services (OP)

- ^{OP} Radiation Protection
- ^{CH} Chemistry & Environmental Ops.
- ^{PO} Shift Operations
- ^{CW} Clearance/Work Coordination
- ^{EP} Emergency Planning
- ^{OO} Other Operations

Maintenance Services (MT)

- ^{CR} Control Room/Electrical
- ^{TR} Turbine Building
- ^{NS} NSSS
- ^{OA} Outside Area
- ^{MS} Maintenance Support
- ^{PM} Procedures/Prod. Maint
- ^{OM} Other Maintenance

Outage Services (OS)

- ^{SD} Scheduling
- ^{PM} Project Management
- ^{OT} Other Outage

Site Services (SD)

- ^{CS} Clerical Staff
- ^{SS} Security Services
- ^{GS} General Services
- ^{PS} Procurement Services
- ^{FS} Fire, Safety & Health
- ^{OS} Other Site Services

^{OO} Other Nuclear Generation

Nuclear Technical Services (NT)

Engineering Services (ES)

- ^{DS} Design Services
- ^{TS} Technical Support Engineering
- ^{ED} Elect/I&C Design & Component Eng.
- ^{SE} System Engineering
- ^{NS} NSSS System Engineering
- ^{EFP} E-FIN/Projects
- ^{OE} Other Engineering Services

Nuclear Safety Assmt. & Licensing (NA)

- ^{RS} Regulatory Services
- ^{PT} PRA/Transient Analysis
- ^{ON} Other NSA & Licensing
- ^{TR} NPG Learning Services (LR)

^{OS} Nuclear Quality Services (QS)

Nuclear Business Unit (NB)

- ^{HR} Human Resources
- ^{TR} NPG Transition & SPARK
- ^{BP} Business Planning
- ^{BD} Budget & Performance Mgmt.
- ^{CC} C&TS/NPG Organization
- ^{OB} Other Business Unit

^{OM} Other NPG Unit (if your Unit is not shown)





Table IV.12¹⁵
Top Quartile Organizations

Nuclear Safety Culture	General Culture & Work Environment	Leadership, Management & Supervisory
E-FIN Projects (4.10-98%)	PRA/Trans.Anal. (3.77-93%)	PRA/Trans.Anal. (3.67-5%)
NPG Transition/SPARK (4.10-96%)	"Other" Operations (3.73-89%)	"Other" Operations (3.64-88%)
"Other" Operations (4.05-93%)	E-FIN Projects (3.70-89%)	Scheduling (3.60-88%)
Scheduling (4.02-95%)	Scheduling (3.64-88%)	E-FIN Projects (3.56-87%)
Chem./Env.Ops. (4.01-96%)	Chem./Env.Ops. (3.58-89%)	Chem./Env.Ops. (3.49-87%)
Human Resources (3.96-95%)	Nuc.Qual.Svcs.(3.56-86%)	Nuc.Qual.Svcs.(3.47-85%)
PRA/Trans.Anal. (3.94-98%)	NPG Transition/SPARK (3.55-85%)	NPG Transition/SPARK (3.43-85%)
Procurement Services (3.87-91%)	NPG Learn.Svcs. (3.50-88%)	NPG Learn.Svcs. (3.42-87%)

Table IV.13
Bottom Quartile Organizations

Nuclear Safety Culture	General Culture & Work Environment	Leadership, Management & Supervisory
NSSS Mtc. (3.27-22%)	NSSS Mtc. (2.79-36%)	NSSS Mtc. (2.69-40%)
Shift Operations (3.28-25%)	Fire,Safety,Health (2.89-36%)	Fire,Safety,Health (2.84-36%)
Fire,Safety,Health (3.32-20%)	Rad. Protection (2.98-31%)	Rad. Protection (2.88-34%)
Proc/Predict. Mtc. (3.40-17%)	Security Services (2.97-27%)	Security Services (2.90-29%)
Clerical Staff (3.42-18%)	NSSS Sys.Eng. (3.03-26%)	NSSS Sys.Eng. (2.91-31%)
Rad. Protection (3.48-17%)	Proc/Predict. Mtc. (3.04-27%)	Proc/Predict. Mtc. (2.93-29%)
Security Services (3.49-12%)	Shift Operations (3.04-28%)	Shift Operations (2.94-32%)
Outside Area Mtc. (3.53 -15%)	Clerical Staff (3.03-28%)	Clerical Staff (2.96-29%)
		Tech.Supt.Eng. (2.97-27%)

Other organizations with significant negative pockets are (composite means/negative % shown):

Nuclear Safety Culture: None.

General Culture & Work Environment: General Services (3.11-27%), Outside Area Mtc. (3.14-25%), Clearance & Work Control (3.11-25%).

¹⁵ Tables IV.12 and IV.13 Notes: The Composite Cultural Indicator means are shown in parenthesis. Composite Positive Percentages are shown in Table IV.12 for the Top Quartile organizations. Composite Negative Percentages are shown in Table IV.13 for the Lower Quartile organizations. Organizational units shown with "*" had low response rates and may require further validation to confirm these results.



Leadership, Management & Supervisory: General Services (3.07-28%), Outside Area Mtc. (3.03-27%), Clearance & Work Control (3.03-26%), Turbine Bldg. Mtc. (3.05-26%), Maintenance Support (3.03-26%), Regulatory Services (3.16-26%)

Collective Evaluation:

The results of SYNERGY's review of the data discussed above regarding actual/potential organizational outliers at DCPD are provided in Table IV.14 in terms of suggestions for assignment of relative priorities for additional validation and, as appropriate, for activities to promote organizational improvement.

Additional management evaluation of the underlying causes for the Survey results in these organizations and the implementation of remedial action, as appropriate, are recommended. It is recognized that management may have other sources of information regarding these causes and that actions may have already been taken that are not yet fully reflected in the Survey results. Any actions in accordance with the priorities of Table IV.14 should be based on the integration of this and other information known to DCPD management.

Table IV.14¹⁶
Relative Priorities for Organizational
Validation, Intervention or Remediation

Priority	Organizations
1	NSSS Maintenance* Shift Operations Fire, Safety & Health* Procedures/Predictive Maintenance Radiation Protection Security Services* Clerical Staff*
2	Outside Area Maintenance
3	NSSS System Engineering* Technical Support Engineering
4	General Services Clearance/Work Coordination

Table IV.14 Note: * Indicates organizations with response rates < 50%



V. Suggestions for Continuous Improvement

The following suggestions are related to site-wide opportunities for continued improvement. They are based upon a collective evaluation of the survey results, including an analysis of the write-in comments, and the insights drawn from the personnel interviews.¹⁷ It should be noted that suggestions related to specific DCPD organizations are provided in Section IV.H.

1. Trust in Management

Employees' trust and confidence in management appears to be generally lower than desired on a site-wide basis and varies significantly at the specific organization level.

Significant issues identified include the following:

- Some question whether management is straightforward, honest and truthful when dealing with others.
- Many feel that management does not communicate sufficiently with workers – particularly on a face-to-face basis.
- Many feel that management does not communicate sufficiently with workers regarding:
 - Plans under consideration by management.
 - Bases/Reasons for decisions by management
 - Objectives/Reasons for changes.
 - Airing of problems.
- Many feel that management does not genuinely care about how the people feel about their involvement and contribution.
- Many feel that management is neither sufficiently receptive nor sufficiently responsive to suggestions from workers – including input and/or feedback on plans, decisions or the results of decisions¹⁸
- Many feel that management does not respond to employee relations issues consistently and fairly
- Some feel that management speaks of teamwork, yet acts otherwise.
- Many feel that management, particularly senior management, is not sufficiently visible and accessible to the workforce.
- Many feel that the senior management team is not setting a sufficiently positive example by "walking the talk".

¹⁷ Additional details are provided in the Appendices to this Report, particularly in Appendix E, "Themes and Insights Derived From Interviews and Analysis of Write-in Comments."

¹⁸ For additional related details, refer to the information presented in Appendix E under "Openness and Receptivity of Management and Supervision."



Actions to increase and build employee trust in management are needed to improve both the GC&WE and the NSC at DCPP. It appears that expectations and plans to help management achieve sustained, consistent behaviors deserving of trust need to be developed, implemented, and reinforced. As part of this effort, it is suggested that the DCPP management team develop/adopt and commit to a general model of values and expectations for Management/Supervisory behavior.

2. Effective Management of Change

During the past year, there have been several significant changes in the way that DCPP conducts its business -- both on a site-wide basis and at the local level.

Many perceive that the pace of change has been too fast and that a period of adjustment/stabilization is needed.

Many noted that there is a need to improve the manner in which potential changes are identified, evaluated, planned and implemented at DCPP.

Significant issues included the following:

- Improved communications regarding the reasons/objectives for the change.
- Active and genuine solicitation of input from those affected by the change.
- Achievement of greater buy-in/ownership from supervision and workers "up-front" to increase the probability that new changes will be accepted and supported.
- Reviews to determine effectiveness of implemented changes and to make mid-course corrections as needed.¹⁹

It appears that increased emphasis on and reinforcement of the use of key change management principles is needed to improve the effectiveness of planning, implementing, and evaluating significant changes to the way business is conducted at DCPP.

¹⁹ For additional related details related to a specific suggestion for a mid-course review of the transition to the Maintenance Asset Teams, refer to the information presented in Appendix E under "Maintenance Services: Transition to Asset Teams"



3. Employee Concerns Regarding the Future of DCPD

The workforce is concerned about future decisions regarding the continued operation of DCPD and about what those decisions will mean to them personally.

- Many feel that there has been insufficient communications (quality and quantity) regarding the future plans for DCPD.
- Many feel that management has not provided a sufficiently clear map of the road ahead and of how goals and objectives will be achieved.

It appears that additional attention to these employee concerns is needed. The following suggestions are provided:

- *Communicate often and repetitively current information regarding DCPD's future. Face to face communications, with opportunities for questions and answers, should be part of the overall communication plan.*
- *Emphasize management's commitment to a Plan that is designed to do everything reasonable/practicable to position DCPD as a viable (safe, reliable, and economic) generating station in a more competitive business environment. Communicate about the Plan and about progress in its implementation.*

4. Clearing the Air

During the past year, there have been several instances where management has taken actions that could be perceived by some as having a potential "chilling effect". These instances appear to have had a lingering effect on some personnel, both on a site-wide basis and within certain organizational groups.

It appears that almost everyone could benefit from a general discussion of the lessons learned from these situations and how we plan to address similar situations that may occur in the future. Managers and supervisors could benefit from a more detailed review of these situations in the next refresher session of sensitivity training or through other appropriate venues.

With respect to the recent situation involving the removal of an Operations Shift Foreman from duty, it appears that an air clearing is needed as soon as possible to attempt to remove any lingering doubts regarding the nature and disposition of the individual's safety concerns, the bases for management's decision with respect to his fitness for duty, and the lessons learned from this situation.



5. Management/Supervisory Practices

In addition to the previously-noted issues related to "Trust in Management", the following is a partial list of Management/Supervisory practices that are perceived to be in need of improvement:

- Effectively implement employee discipline policies. (2.52/48%)²⁰.
- Build people's pride, self-esteem and commitment to the organization. (2.59/46%)
- Effectiveness in developing people through coaching. (2.61/46%)
- Linkage of performance and accomplishments to compensation. (2.62/46%)
- Coach others in a way that facilitates clear thinking, honest communication, and creative problem solving. (2.71/40%)
- Effectively involve and tap the creativity of the work force. (2.71/39%)
- Effectively manage conflicts and disagreements. (2.77/35%)
- Give those closest to the work appropriate decision-making authority. (2.75/37%)
- Provide meaningful opportunities for involvement and contribution. (2.77/37%)
- Recognize and reward achievement. (2.78/37%)

The above-mentioned Management/Supervisory practices appear to represent some of the more significant, specific opportunities for improvement and they should be addressed. However, of equal importance (as noted previously) is the development or adoption of a general model of values and expectations for Management/Supervisory behavior that would be communicated, used, and reinforced.

6. The Employee Concerns Program (ECP)

Opinions regarding the effectiveness of the ECP appear to vary widely. On an integrated site-wide basis, employee ratings of confidence in the ECP are generally "adequate to good". However, ratings within several specific organizations – most notably Shift Operations and NSSS Maintenance – are low.

- In general, it appears that there is significant room for improvement in visible promotion and support of the program by management.
- Most of those providing negative comments perceived the ECP as being overly aligned with management's interests and as not being sufficiently aligned with employee/worker interests. As a result, they question the ability of the ECP to conduct fair, objective evaluations.

²⁰ Information presented in parentheses is the DCCP site mean rating and negative response percentage



- Some indicated that providing feedback on the ECP's performance and lessons learned, in a manner that preserves confidentiality, would de-mystify the process and enhance the reputation of the process.
- It is clear that perceptions regarding the ECP Program's involvement in recent, highly visible situations (e.g., the situation involving an Operations Shift Foreman) have had a negative impact on the Program's credibility – particularly within some segments of the organization.

An assessment of the reasons underlying the low confidence ratings in the applicable, specific organizations needs to be conducted. A plan to restore confidence in these organizations needs to be developed and successfully implemented.

Similarly, additional actions to enhance the site-wide credibility of the ECP program should be evaluated and implemented as appropriate. In this regard, it is suggested that alternative approaches be explored to increase the ECP's role/position as an "employee advocate"



V. Conclusions

Nuclear Safety Culture

The site-wide Nuclear Safety Culture at DCPD is currently perceived to be in the "adequate to good" range. In this regard, the DCPD ranks in the middle of the nuclear facilities surveyed by SYNERGY.

Over the past year, the site-wide NSC appears to have been relatively steady at DCPD. Based on SYNERGY's experience, the relatively steady NSC indicators at DCPD suggest that additional positive action will be required to achieve improvement in the NSC over the next 12-18 months. In this regard, suggestions for improvement have been provided herein. They should be considered in the context of other information available to NPG/DCPD management.

The current perception of the NSC varies within specific DCPD organizations. Over the past year, the perception of the NSC appears to have declined somewhat within certain DCPD organizations:

- ◆ At the Major Functional Organization level, NSC ratings within the Nuclear Generation organization were noticeably lower than the ratings within the other major organizations.
- ◆ At the Director Organization level, NSC ratings also varied noticeably. Specific organizations are identified herein as higher priority candidates for further validation, remediation, or intervention.

The vast majority of DCPD personnel:

- ◆ Feel a responsibility to identify potential nuclear safety concerns and write Action Requests (96.1%), would inform their supervision (98.3%) and would feel supported for having done so (93.5%). If not satisfied, employees would take the concerns further up the management chain (88.6%).
- ◆ Believe that nuclear safety is the first and over-riding priority at DCPD (90.8%) and that behaviors and practices are consistent with this priority (90.1%).
- ◆ Believe that the DCPD plant is operated, maintained, and modified in accordance with licensing and design basis requirements (97.7%).
- ◆ Believe that expectations and standards for nuclear safety performance are adequately communicated in general across the site (94.7%) and specifically as these apply to people's jobs (95.0%).
- ◆ Feel their peers are generally quality consciousness & pay attention to details (96.2%), are self-critical and have questioning attitudes (94.8%), and adhere with procedural requirements as a means of assuring nuclear safety (90.8%).
- ◆ Perceive that their work group strives to improve performance (95.2%) and identifies its own problems (93.5%). Also, they believe that they are held appropriately accountable for performance by their supervision (90.7%).



- ◆ Do not perceive the prospect of increasing their workload (93.6%) or of adversely affecting schedule/missing goals (95.3%) as barriers currently affecting willingness to identify and pursue resolution of a potential NS issue.

While the vast majority indicated that management and supervision are appropriately sensitive and supportive of raising of potentially important safety issues, many believe that management sensitivity to lower level issues could improve. They perceive that:

- ◆ Management's receptivity and responsiveness to technical issues is strong, but that receptivity and responsiveness to soft or human issues is mixed.
- ◆ Management and supervision does not sufficiently demonstrate that it values personnel who raise, pursue and/or resolve potential safety issues, and that increased support and recognition of such personnel is needed to promote and reinforce such behaviors.

The vast majority believes that the Corrective Action Program (CAP) and other programs/processes at DCPD are functioning effectively and are continuing to improve.

On an integrated site-wide basis, employee confidence ratings in the ECP were "adequate to good". Overall employee confidence ratings placed the ECP at approximately the 73rd percentile within SYNERGY's nuclear industry database. However, opinions regarding the effectiveness of the ECP vary widely across the DCPD Director-level organizations. Pockets of negativity appear to be strongest within Operations Services and Maintenance Services.

The recent removal from duty of an Operations Shift Foreman was referenced frequently both in survey write-in comments and in personnel interviews conducted by SYNERGY. From this input, the following insights can be drawn with respect to the perceived impacts of this situation on the NSC (particularly the NSC within the Shift Operations organization):

- ◆ Essentially everyone is interested in a prompt, open airing of information regarding this situation.
- ◆ Essentially all Shift Operations personnel believe that this situation was unfortunate. As to the appropriateness of management's actions....
 - Some perceive management's actions in a very negative light.
 - Some give management the benefit of the doubt, absent further information.
 - The majority wants to hear more about this before making up their minds.
- ◆ Some Shift Operations personnel indicated that they considered the environment to be "chilled" as a result of this situation.
- ◆ The interviews and the write-in comments (as well as the survey response data) indicate that, despite the concerns and/or uncertainties associated with this situation, it does not appear to have adversely affected individual willingness to identify a potential nuclear safety issue - particularly if it involves a technical or equipment issue - to immediate supervision.
 - The vast majority of Shift Operations personnel indicated that they will identify potential nuclear safety issues to their supervision and, if applicable, will write an AR.
 - Most Shift Operations personnel are also willing to escalate a potential nuclear safety issue to management if they are not satisfied with their supervisor's response.



- ◆ It appears that, for some, this event may have contributed to a decrease in current willingness to "push" or escalate an issue that is perceived to be within management's prerogative (i.e., how we are organized, staffed, conduct business).

General Culture & Work Environment

The site-wide General Culture and Work Environment (GC&WE) at DCPD is currently perceived to be in the "adequate" range.

Over the past year, the site-wide GC&WE appears to have declined at DCPD. The survey results indicate low (19th percentile within SYNERGY's nuclear industry database) and declining (approximately a 38% negative response rate compared to 28.5% for a year ago) levels of employee personal satisfaction and morale. This represents a potential challenge to further improvement in the NSC because employee motivation and innovation is so critical.

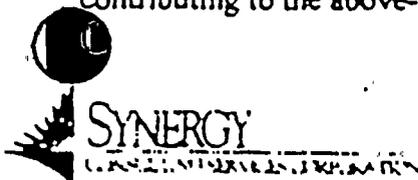
Based on SYNERGY's experience, the declining GC&WE indicators at DCPD suggest that additional positive action will be required to preclude further decline and/or to achieve improvement in the GC&WE over the next 12-18 months. In this regard, suggestions for improvement have been provided herein. They should be considered in the context of other information available to NPG/DCPD management.

The current perception of the GC&WE varies within DCPD organizations.

- ◆ At the Major Functional Organization level, GC&WE ratings within the Nuclear Quality Services organization were noticeably higher than the other major organizations. GC&WE ratings within the Nuclear Technical Services organization were nominally higher than the site mean and ratings within the Nuclear Generation organization were nominally lower than the site mean.
- ◆ At the Director Organization level, GC&WE ratings also varied noticeably. Specific organizations are identified herein as higher priority candidates for further validation, remediation, or intervention. (As is often the case, most of these specific organizations also had lower NSC ratings as well.)

This assessment was conducted at a point in time when DCPD personnel had recently experienced, were experiencing, and/or were anticipating additional significant changes or uncertainties in their general work environment. Most of these changes were/are associated with actions taken/planned by PG&E management to position DCPD for a more competitive business environment. Most of these uncertainties are related with the future status of DCPD and the associated personal implications to PG&E employees currently working at DCPD.

These factors alone are creating varying degrees of stress within the workforce and are contributing to the above-mentioned low and declining levels of employee personal satisfaction





and morale. This phenomenon is typical of that which is being experienced throughout the industry at this time and represents a key leadership and management challenge.

While these factors have undoubtedly contributed to employee perceptions regarding the decline in the GC&WE at DCP, a number of other significant factors were also identified, including the following:

- ◆ Employees' trust and confidence in management appears to be generally lower than desired on a site-wide basis and varies significantly within specific organizations. Actions to increase and build employee trust in management appear to be needed to improve both the GC&WE and the NSC at DCP.
- ◆ Many perceive that there has been a long history of lack of openness and receptivity of DCP management to input and feedback from the workforce (including hourly and salaried personnel alike). Some perceive that this has increased over the past few years as major changes (i.e., in organization, staffing, and business *modus operandi*) have been made in response to significant changes in the general business environment.
- ◆ Perceptions of the quality of management and supervision vary widely from organization to organization. Some feel that the majority of management still focuses on technical issue and task completion management, and have a significant lack of understanding, appreciation, and skill in the areas of leadership and behavior management skills. Some also noted that first line supervisors have not received adequate training and development in handling conflict, holding people accountable, and managing behavior.
- ◆ Many expressed concerns regarding future decisions regarding the continued operation of DCP and about what those decisions will mean to them personally. Many feel that there has been insufficient communications (quality and quantity) regarding the future plans for DCP. Many feel that management has not provided a sufficiently clear map of the road ahead and of how goals and objectives will be achieved.
- ◆ Perceptions of the effectiveness of the performance appraisal process vary widely from organization to organization. Many noted that managers and directors are not very comfortable or good at dealing with human performance problems.
- ◆ Many noted that, while some of the recent changes in the way DCP conducts its business have been accomplished reasonably well, there is a need to improve the manner in which potential changes are identified, evaluated, planned and implemented at DCP.

Leadership, Management & Supervisory Practices

The site-wide rating of Leadership, Management & Supervisory Practices (LMS) at DCP is currently perceived to be in the "adequate" range.

LMS ratings closely parallel the GC&WE ratings, but are slightly lower. Suggestions for continuous improvement in this area are generally included in the suggestions to improve the GC&WE



VII. Summary of Information in the Appendices

- ▶ Appendix A - Comprehensive Cultural Survey (form)
- ▶ Appendix B - Graphics Summarizing the Trend of Employee Ratings (DCPP Composite)
 - Nuclear Safety Culture Trend, 1997-98 (data from 1998 assessment)
 - Comparison with Nuclear Industry (six areas of inquiry)
 - Trend bar graphs 1997-98

The industry statistics are based upon 26 nuclear locations (representing approx. 1/3 sample of industry by units in service), constituting a representative cross-section of higher-to-lower performing facilities. The industry database includes statistics from SYNERGY's most recent assessments; i.e. while SYNERGY has completed over fifty assessments, older data are discarded as sites are re-baselined.

Key:

-Identification/Resolution – ratings of the overall effectiveness of the corrective action processes including appropriate issue thresholds, prioritization based upon significance, timeliness and thoroughness of investigations, effective resolutions, complete solutions, etc.

-Management Influence – degree to which management is perceived to have a positive influence in promoting the principles of nuclear safety and attaining higher levels of performance, is engaged and leading by example, practices open communications with consistent actions, supports employee efforts in identifying and addressing potential nuclear safety issues, etc.

-Employee Concerns Program – overall confidence in the ECP including it's cultural acceptance, proper structure/scope, clarity of roles and responsibilities, program management with high integrity (confidentiality / protection of identity), competent implementation and generally, no barriers to using the process.

-Willingness – perceptions of the overall environment for identifying potential nuclear safety issues or concerns including whether proactive initiative is encouraged, if employees are comfortable in raising any type of issue, if employees believe they would not pay a personal "price" for raising a concern and if there are generally no other adverse barriers.

-Personal Experience – overall job satisfaction including morale, personal growth opportunities, professional working environment, job security, felt value, workload, etc.

-Nuclear Safety Culture – overall assessment of the Department's nuclear safety culture including the emphasis on appropriate Values, Behaviors and Practices, coupled with a conducive, safety conscious work environment.





► Appendix C - Summaries of the Most Highly Positive & Most Highly Negative Responses to the CCA Survey

-Most Highly Positive Responses – set of survey questions with the highest DCPD composite means showing the numerical values of the mean for each question and the percent of positive responses. The percent positive responses represent the summation of “fully agree (1),” “strongly agree (2)” and “generally agree (3)” or “excellent (1),” “very good (2)” and “adequate (3)” responses, in accordance with the Survey’s five point response scales.

-Least Positive Responses – set of survey questions with the lowest DCPD composite means showing the numerical values of the mean for each question and the percent of negative responses. The percent negative responses represent the summation of “disagree (2)” and “strongly disagree (1)” or “less-than-adequate (2)” and “inadequate (1)” responses, in accordance with the Survey’s five point response scales.

► Appendix D - Employee Responses to Write-in Questions

-Histograms: Positive and Critical Write-in Responses for “Areas of strength that reinforce the Nuclear Safety Culture and performance” (Question 38); “Any barriers and weaknesses that adversely impact the Nuclear Safety Culture and performance” (Question 39); “Areas of strength or any weaknesses in the General Culture & Work Environment” (Question 40); “Any other comments or suggestions for improvement” (Question 41); “Impact of Workload” (Question 4e); and “Other Barriers” (Question 231).

A total of 8 frequency distributions, one each showing response categories normalized to the number of citations for the most frequently cited response category.

► Appendix F - Correlation of Relative Responses within Cultural Dimensions

The Cultural Dimensions represent a weighed, statistical rollup of the Survey questions, consistent with each of the Dimensions of SYNERGY’s cultural models. Using the Cultural Dimensions, there is a set of three charts covering correlations of relative responses for the Nuclear Safety Culture, the General Culture & Work Environment, and the Leadership, Management & Supervisory Practices as follows:

- By Officer-level and Manager-level Organizations, Worker Categories, Positions & Years of Service and,
- By Director-level Organizations (2 charts)

Each chart shows how the Dimensional means and percent negative responses for each demographic unit and each organization compare to the respective site composite values.



The arrows compare the means (↑ or ↓ indicate ratings in approx. the top or lower quartile, respectively; ¶ or ¶¶ indicate ratings in approx. the top or bottom decile, respectively; no arrow indicates ratings in approx. the middle 50%) and the shaded locations highlight areas where there are higher concentrations of negative opinions (for the Nuclear Safety Culture, >15% negative response; for the General Culture & Work Environment, >20% negative response; for the Leadership, Management, and Supervisory Practices, >20%). One should note that "down" arrows may or may not indicate problems, e.g. if the site mean is high, the Unit's rating may still be acceptable; however, such cases do represent deviations from the site norm. Conversely, shaded locations generally do represent opportunities for management attention to understand the bases for such negative "pockets."

There is an additional set of three charts covering correlations of relative responses for the Facilitative Leadership Practices / Special Topics as follows:

- By Officer-level and Manager-level Organizations, Worker Categories, Positions & Years of Service and,
- By Director-level Organizations (2 charts)

Means follow the same convention as noted above, and "pockets" are indicated by >30% negative response rate.

There is an additional set of three charts covering several groups of questions related to indicators/precursors of a potential chilled environment at DCCP. These are also organized as follows:

- By Officer-level and Manager-level Organizations, Worker Categories, Positions & Years of Service and,
- By Director-level Organizations (2 charts)

Means follow the same convention as noted above, and "pockets" are indicated by >15% negative response rate.

There is an additional set of three charts covering several groups of questions related to indicators/precursors of a potential chilled environment at DCCP. These are also organized as follows:

- By Officer-level and Manager-level Organizations, Worker Categories, Positions & Years of Service and,
- By Director-level Organizations (2 charts)

Means follow the same convention as noted above, and "pockets" are indicated by >15% negative response rate.



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There is an additional set of three charts covering several groups of questions related to individual willingness to take appropriate action at DCP, given the perceived work environment at the local and/or site level. These are also organized as follows:

- By Officer-level and Manager-level Organizations, Worker Categories, Positions & Years of Service and,
- By Director-level Organizations (2 charts)

Means follow the same convention as noted above, and "pockets" are indicated by >15% negative response rate.

Charts Legend:

Nuclear Generation (NG)

Operations Services (OP)

- ^{OP} Radiation Protection
- ^{CH} Chemistry & Environmental Ops.
- ^{PO} Shift Operations
- ^{CV} Clearance/Work Coordination
- ^{EP} Emergency Planning
- ^{OO} Other Operations

Maintenance Services (MT)

- ^{CR} Control Room/Electrical
- ^{TR} Turbine Building
- ^{NS} NSSS
- ^{OA} Outside Area
- ^{MS} Maintenance Support
- ^{PS} Procedures/Prod. Maint
- ^{OM} Other Maintenance

Outage Services (OS)

- ^{SD} Scheduling
- ^{PM} Project Management
- ^{OT} Other Outage

Site Services (ST)

- ^{CS} Clerical Staff
- ^{SS} Security Services
- ^{GS} General Services
- ^{PS} Procurement Services
- ^{FS} Fire, Safety & Health
- ^{SO} Other Site Services

^{OO} Other Nuclear Generation

Nuclear Technical Services (NT)

Engineering Services (ES)

- ^{DS} Design Services
- ^{TS} Technical Support Engineering
- ^{EB} Elect/I&C Design & Component Eng.
- ^{SE} System Engineering
- ^{NS} NSSS System Engineering
- ^{EP} E-FIN/Projects
- ^{OE} Other Engineering Services

Nuclear Safety Assmt. & Licensing (NA)

- ^{RS} Regulatory Services
- ^{PT} PRA/Transient Analysis
- ^{OL} Other NSA & Licensing
- ^{TR} NPG Learning Services (TR)

^{OS} Nuclear Quality Services (OS)

Nuclear Business Unit (NB)

- ^{HR} Human Resources
- ^{TP} NPG Transition & SPARK
- ^{BP} Business Planning
- ^{BO} Budget & Performance Mgmt.
- ^{CO} C&TS/NPG Organization
- ^{OB} Other Business Unit

^{ON} Other NPG Unit (if your Unit is not shown)



► Appendix G - Organizational Analysis Data

Regression plots - showing the relationship between the NSC and GCWE Composite Cultural Indicators and the Organizational Unit's priority for validation, intervention or remediation.

Explanation of Linear Regression Analysis Techniques:

Linear regression analysis techniques were utilized to investigate the inter-relationships between the Composite Cultural Indicator (CCI) metrics quantifying 1) the Nuclear Safety Culture (NSC), 2) the General Culture and Work Environment (GCWE) and, 3) applied Leadership, Management and Supervisory (LMS) skills and performance. A key question is whether (or to what degree) variations in specific cultural metrics can be explained by variations in other metrics. The statistical quantity r^2 , or the Coefficient of Determination (COD) was used. The value of the COD always ranges between 1.0 (indicating a perfect relationship) and 0 (indicating an extremely poor relationship). For example, as Table G.1 shows, approximately 98% of the variation in the GCWE can be explained by variations in LMS skills and performance.

Table G.1

Cultural Correlation	Coefficient of Determination
NSC - GCWE	.76
GCWE - LMS	.98
NSC - LMS	.76

The relationships between the NSC and both the GCWE and LMS are also strong. In view of the strong general relationship between the NSC and the GCWE, it may be prudent to address the causal factors explaining the relatively weaker GCWEs in the organizations noted in this Assessment as a precaution against any effect on the NSC in the future.



Appendices

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D.	Write-in Response Summaries
E.	Interview Issues & Themes
F.	Cultural Dimension Matrices - Demographic & Organizational
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I.	Comparison with 1997 Safety Culture Survey (Martin/Sigmon)

Enclosure 4

Meeting

Transcript

