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January 27, 2008  
L-08-005

Mr. James L. Caldwell, Administrator  
United States Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

Subject:

Davis-Besse Nuclear Power Station, Unit 1  
Docket Number 50-346, License Number NPF-3  
Submittal of the 2007 Organizational Safety Culture and Safety Conscious Work  
Environment Independent Assessment Report for the Davis-Besse Nuclear  
Power Station

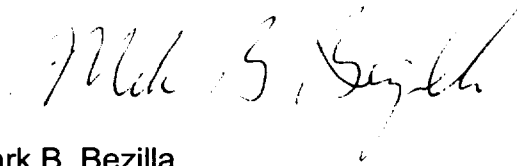
The purpose of this letter is to submit the assessment report for the 2007 Organizational Safety Culture and Safety Conscious Work Environment Independent Assessment for the Davis-Besse Nuclear Power Station (DBNPS). This submittal is in accordance with the Nuclear Regulatory Commission (NRC) letter dated March 8, 2004, "Approval to Restart the Davis-Besse Nuclear Power Station, Closure of Confirmatory Action Letter, and Issuance of Confirmatory Order," which requires submittal of the assessment results within forty-five (45) days of the completion of the assessment.

The on-site activities of the Organizational Safety Culture and Safety Conscious Work Environment Independent Assessment were conducted from October 29 to November 2, 2007, in accordance with the Assessment Plan, Revision 1, submitted via letter Serial Number 1-1511, dated November 8, 2007. The final debrief of the assessment results was presented to the DBNPS management on December 14, 2007, marking the end of the assessment. The enclosed report contains the results of the Independent Assessment. No issues rising to the level of an Area for Improvement were identified in the Independent Assessment; therefore, no action plans are included to address areas for improvement.

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There are no regulatory commitments included in this letter. If there are any questions or if additional information is required, please contact Mr. Raymond A. Hruby, Jr., Manager – Site Regulatory Compliance, at (419) 321-8000.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark B. Bezilla". The signature is written in a cursive style with a large initial "M".

Mark B. Bezilla

LJS

Enclosure:

- A Independent Assessment of the Davis-Besse Nuclear Power Station Nuclear Safety Culture and Safety Conscious Work Environment

cc: USNRC Document Control Desk  
DB-1 NRC/NRR Project Manager  
DB-1 Senior Resident Inspector  
Utility Radiological Safety Board

Enclosure A  
L-08-005

INDEPENDENT ASSESSMENT OF THE  
DAVIS-BESSE NUCLEAR POWER STATION  
NUCLEAR SAFETY CULTURE AND  
SAFETY CONSCIOUS WORK ENVIRONMENT

ASSESSMENT NUMBER: COIA-SC-2007

DECEMBER 21, 2007

(190 pages follow)

**INDEPENDENT ASSESSMENT OF THE  
DAVIS-BESSE NUCLEAR POWER STATION  
NUCLEAR SAFETY CULTURE AND  
SAFETY CONSCIOUS WORK ENVIRONMENT**

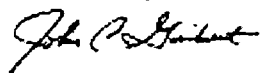
**ASSESSMENT NUMBER: COIA-SC-2007**

**DECEMBER 21, 2007**

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**Submitted By:**



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**Reviewed and Accepted By:**



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# COIA-SC-2007 FINAL REPORT

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## I. EXECUTIVE SUMMARY

### IA INTRODUCTION

#### Assessment Purpose & Objectives

By Confirmatory Order issued on March 8, 2004, the US Nuclear Regulatory Commission required FirstEnergy Nuclear Operating Company (FENOC) to conduct independent assessments of the Davis-Besse Nuclear Power Station (DBNPS) Nuclear Safety Culture (including the Safety Conscious Work Environment) for a period of five years.

This report presents the results of the fourth annual independent assessment of the DBNPS NSC/SCWE. This assessment was conducted by SYNERGY Consulting Services Corporation using a cultural assessment methodology that has been previously applied in more than 125 assessments throughout the commercial nuclear power industry<sup>1</sup>. This is the second consecutive annual assessment of the DBNPS NSC/SCWE performed by SYNERGY.

The purposes of this Assessment were to:

- Provide an independent and comprehensive assessment of the status of the existing Organizational NSC, including the SCWE, at DBNPS.
- Identify areas for improvement requiring corrective actions with action plans, and provide observations for other improvement opportunities.
- Evaluate the effectiveness of corrective actions taken to address the areas for improvement that were identified in the 2006 Independent Assessment.
- Assess the rigor, criticality, and overall quality of the DBNPS internal self-assessment activities related to the NSC/SCWE.

Additional objectives of this Assessment were to:

- Identify areas of strength
- Identify organizational outliers
- Provide trending information
- Provide industry benchmarking information

#### Summary of Assessment Methodology

The methodology used in the 2007 Independent Assessment of the Nuclear Safety Culture/Safety Conscious Work Environment at the DBNPS was designed to assess organizational culture by obtaining and evaluating information on a comprehensive set of cultural attributes (values, beliefs, behaviors and practices) that define and support a strong Nuclear Safety Culture (NSC) and a strong Safety Conscious Work Environment (SCWE).

This methodology included an assessment of cultural attributes related to the General Culture & Work Environment (GCWE) and Leadership, Management and Supervisory Behaviors & Practices (LMS) because issues identified in these two cultural areas could represent “precursors” and/or “areas of cultural fragility” signaling future challenges to the NSC/SCWE.

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<sup>1</sup> SYNERGY has extensive experience in conducting Nuclear Safety Cultural Assessments for the commercial nuclear industry, having performed more than 125 Nuclear Safety Cultural Assessments, including 48 nuclear power plant sites, 76 nuclear power plants and 3 nuclear fuel cycle facilities.

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The Assessment Team utilized five diverse sources of input, which were integrated in the process of identifying findings and reaching conclusions:

- Workforce survey numerical results, including 2006-2007 numerical rating trends.
- Workforce survey write-in comments
- Personnel interviews
- Behavioral observations
- Documentation reviews.

The survey write-in comments, personnel interviews, behavioral observations and documentation reviews:

- Validated the survey numerical results
- Provided valuable insights into the underlying reasons for the survey numerical ratings
- Contributed to the identification and characterization of Assessment Team findings, suggestions and conclusions.

### Nuclear Safety Culture versus Nuclear Safety Performance

An organization's performance ultimately will be shaped, defined and driven by its culture – its values and attitudes as embodied and reinforced by its standards, expectations, behaviors and practices. Organizational culture is best viewed as an “enabler” or “disabler” of organizational performance, as opposed to an indicator of actual organizational performance.

An organization's culture at any given point in time, as measured by the widely-held beliefs of the organization, reflects both the organization's experience & performance and, more importantly, its belief and confidence in the direction that it is heading. Measurements of an organization's culture are generally reliable leading indicators of future performance. That is, measurements of actual organizational performance typically lag measurements of organizational culture – particularly in circumstances where the organizational culture may have changed (or is perceived to have changed) significantly.

Measurements of an organization's culture frequently identify leading indicators or areas of perceived fragility in (or challenges to) the current organizational culture. If not addressed appropriately, such areas of fragility can result in deterioration of the organizational culture and, hence, either deterioration in its future performance or a stalling of continued improvement in its performance.

An organization's culture is rarely completely constant. It adapts, sometimes subtly and sometimes more dramatically, to changes in the organization's environment and to the organization's response to those changes. The role of leadership, management and supervision in establishing, improving, demonstrating, reinforcing and maintaining organizational standards and expectations is a key driver of the organization's culture.

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### I.B OVERALL SUMMARY OF RESULTS

The integrated assessment results for the DBNPS Site Composite Organization are very positive and show continued improvement since the 2006 Independent Assessment. All major cultural components are considered to be “Highly Effective” when compared to commercial nuclear power plant industry norms. All cultural sub-components are considered to be at least “Effective”.

Workforce survey numerical ratings of all major cultural components and sub-components place the DBNPS Site within the top quartile of the Sites included in SYNERGY’s current industry database. Many of these ratings, particularly the SCWE-related ratings, are amongst the highest that SYNERGY has ever encountered.

When compared to commercial nuclear power plant industry norms, DBNPS Site Composite Organization numerical ratings of 180 of the 182 individual survey questions/cultural attributes are considered to represent Areas of Strength<sup>2</sup>. The remaining 2 survey question/cultural attribute ratings are considered to represent Areas of Adequacy.

Direct 2006-2007 trending information is available for 179 of the 182 individual survey questions/cultural attributes. Of these, 176 showed trends that were either positive or relatively steady. The other 3 survey questions/cultural attributes showed nominal decline<sup>3</sup>.

The integrated assessment of all sources of assessment input resulted in the identification of:

- Numerous “Areas of Strength”
- 0 “Areas for Improvement”
- 4 NSC/SCWE-related “Areas in Need of Attention”
- 10 NSC/SCWE-related “Opportunities for Improvement”
- 2 GCWE/LMS-related “Areas in Need of Attention”
- 1 GCWE/LMS-related “Opportunity for Improvement”

A few “Observations & Suggestions” have also been provided by the Assessment Team.

The integrated assessment of all sources of assessment input resulted in the identification of a few areas of potential fragility in the DBNPS organizational culture:

- Some members of the workforce will be carefully watching the conduct of the upcoming refueling outage (RFO 15) to see if schedule pressures result in a degradation of the organization’s NSC values and priorities. This indicates that some require additional proof/confirmation that the current DBNPS nuclear safety culture is fully embedded and/or that it has been fully tested.
- Some members of the workforce are concerned about FENOC’s continuing commitment to provide sufficient resources to support DBNPS in achieving sustained levels of excellence in nuclear safety culture and performance. This indicates that some require additional proof/confirmation that the past history of cyclical support/performance at DBNPS will not be repeated in the future.

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<sup>2</sup> There were actually 186 workforce survey questions, but 4 of these were designed as “inherent trending” questions and are not included in this count. Results information for those 4 questions is provided in Attachment 6.

<sup>3</sup> A mean value rating that declined  $\geq 2.5\%$  but  $< 5\%$ .

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### Interpretation of Assessment Results

As noted above, it is not unusual for measurements of nuclear safety performance to lag measurements of nuclear safety culture. In the opinion of the Assessment Team, this continues to be the case at the DBNPS Site. This should be taken into consideration in interpreting the results of this assessment.

In reporting the results of the 2006 Independent Assessment, it was noted that:

*“It is clear that the DBNPS organization believes that both its nuclear safety culture and its nuclear safety performance have improved very significantly since the time of the Reactor Vessel Head Event. The organization has seen tangible and substantive evidence of this based on the improvements (both physical and cultural) achieved during the extended shutdown period and continuing through the present. The organization continues to believe that it is heading in the right direction and that it is continuing to improve.”*

*“The very high numerical ratings of organizational culture (provided by the DBNPS workforce) may be somewhat inflated either due to a frame of reference based on comparison with the perceived culture at the time of the Reactor Vessel Head event or due to a less than fully accurate frame of reference with respect to current industry standards of excellence. Nonetheless, the predominant factors underlying the very high ratings of organizational culture are the organization’s belief that its current culture is based on strong principles, that the principles are being appropriately applied and reinforced, and that it is has been and continues to be headed in the right direction.”*

Another year has passed and the organization has seen further evidence that its Nuclear Safety Values and Priorities have been sustained and reinforced. Nonetheless, the 2007 Assessment Team continues to believe that the workforce survey numerical ratings are somewhat inflated.

In terms of shifting the organization’s frame of reference from one based primarily on its own experience to one based primarily on current industry standards of excellence, there is evidence of continued progress since the 2006 Independent Assessment. More importantly, there is evidence that the organization is placing increased focus on effecting this transition.

Since workforce perceptions of the strength of the DBNPS nuclear safety culture and nuclear safety performance (as reflected in the survey numerical ratings) may be somewhat inflated due to a less than fully accurate frame of reference, it is suggested that DBNPS management consider:

- Placing additional weight on Assessment Team findings that are below the threshold of an “Area for Improvement” (i.e., “Areas in Need of Attention” and “Opportunities for Improvement”)
- Placing additional weight on Assessment team findings associated with the General Culture & Work Environment or with Leadership, Management and Supervisory Behaviors & Practices, as they may signal future challenges to the NSC/SCWE.

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### **I.C OVERALL ASSESSMENT CONCLUSIONS**

Based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that:

- The DBNPS Nuclear Safety Culture is Highly Effective
  - DBNPS Nuclear Safety Performance is Effective
  
- The DBNPS Safety Conscious Work Environment is Highly Effective
  - DBNPS Safety Conscious Work Environment Performance is Highly Effective

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### I.D SUMMARY OF RESULTS FOR CULTURAL COMPONENTS

#### I.D.1 NSC and SCWE Results<sup>4</sup>

##### Overall Nuclear Safety Culture (NSC)

SYNERGY's NSC assessment model includes three major safety culture components. As shown in Table 1 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that all three of these major safety culture components are Highly Effective.

**Table 1**  
**NSC MAJOR COMPONENTS**

<b>COMPONENT</b>	<b>DBNPS SITE 2007 RATING</b>
<b>OVERALL NUCLEAR SAFETY CULTURE</b>	<b>HIGHLY EFFECTIVE</b>
Nuclear Safety Values, Behaviors & Practices	Highly Effective
Safety Conscious Work Environment	Highly Effective
Employee Concerns Program Effectiveness	Highly Effective

##### Nuclear Safety Values, Behaviors & Practices (NS VB&P)

The NS VB&P major safety culture component includes seven safety culture sub-components. As shown in Table 2 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that four of the seven NS VB&P safety culture sub-components are Highly Effective and that the other three sub-components are Effective.

**Table 2**  
**NS VB&P CULTURAL SUB-COMPONENTS/**

<b>SUB-COMPONENTS</b>	<b>DBNPS SITE 2007 RATING</b>
Standards and Expectations for Nuclear Safety	Effective
Nuclear Safety As Top Priority	Effective
Operational Nuclear Safety	Highly Effective
Identification of Potential Nuclear Safety Issues/Concerns	Highly Effective
Effective Resolution of Nuclear Safety Issues/Concerns	Highly Effective
Timely Resolution of Nuclear Safety Issues/Concerns	Highly Effective
Continuous Improvement of Nuclear Safety Performance	Effective

<sup>4</sup> As was the case for the 2006 Independent Assessment of the NSC/SCWE, the Assessment Team elected to utilize SYNERGY's model of the NSC as the primary framework for reporting assessment results. Results using the NRC RIS 2006-13 model of the NSC are provided in Attachment 5 to this Report.

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SYNERGY's NS VB&P assessment model includes two cross-cutting topical areas (i.e., areas with related cultural attributes that cut across two or more NS VB&P sub-components). The attributes included in these topical areas are generally more focused on actual nuclear safety performance than on nuclear safety culture per se. As shown in Table 3 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that one of these NS VB&P cross-cutting topical areas is Highly Effective and that the other is Effective.

**Table 3  
NS VB&P CROSS-CUTTING TOPICAL AREAS**

TOPICAL AREA	DBNPS SITE 2007 RATING
Workforce confidence in the effectiveness of the CAP for the identification and resolution of nuclear safety issues	Highly Effective
Adverse effects of workload on nuclear safety	Effective

### Safety Conscious Work Environment (SCWE)

SYNERGY's SCWE assessment model includes two major safety culture sub-components. As shown in Table 4 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that both of these major safety culture components are Highly Effective.

**Table 4  
SCWE SUB-COMPONENT**

SUB-COMPONENT	DBNPS SITE 2007 RATING
Indicators & Precursors of Potentially Chilled Work Environment (SCWE I&P)	Highly Effective
Demonstrated Willingness To Take Appropriate Action (SCWE DWTA)	Highly Effective

The SCWE I&P sub-dimension consists of five sub-areas. As shown in Table 5 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that all five of these SCWE sub-areas are Highly Effective.

**Table 5  
SCWE I&P SUB-AREAS**

SUB-AREA	DBNPS SITE 2007 RATING
Influence of the General Site Environment on the SCWE	Highly Effective
Influence of Peers on the SCWE	Highly Effective
Influence of Supervision on the SCWE	Highly Effective
Influence of Management on the SCWE	Highly Effective
Influence of Site Senior Management on the SCWE	Highly Effective



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The SCWE DWTA sub-component consists of two sub-areas. As shown in Table 6 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that both of these SCWE sub-areas are Highly Effective.

**Table 6**  
**SCWE DWTA SUB-AREAS**

<b>SUB-AREA</b>	<b>DBNPS SITE 2007 RATING</b>
Willingness to Inform Supervision or Document Potential Nuclear Safety Issues/Concerns	Highly Effective
Willingness to Escalate Potential Nuclear Safety Issues/Concerns to Management	Highly Effective

Based on documentation reviews, personnel interviews and workforce survey results, the Assessment Team has concluded that appropriate procedures and controls are in place to prevent, detect and mitigate perceptions of potential retaliation and considers that cultural sub-component to be Highly Effective.

### Employee Concerns Program Effectiveness (ECP)

The ECP major safety culture component includes three safety culture sub-components. As shown in Table 7 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that all three ECP Effectiveness safety culture sub-components are Highly Effective.

**Table 7**  
**ECP CULTURAL SUB-COMPONENTS**

<b>SUB-COMPONENT</b>	<b>DBNPS SITE 2007 RATING</b>
ECP As An Acceptable Alternative Path	Highly Effective
Confidence in the ECP	Highly Effective
Bases for Confidence in the ECP	Highly Effective

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### I.D.2 NSC/SCWE Findings

#### NSC/SCWE Areas of Strength

Numerous Areas of Strength in the DBNPS NSC were identified. These are presented in Section IV of this Report and are not repeated in this Executive Summary with the following exceptions.

The DBNPS Site Composite Organization workforce survey ratings of five SCWE-related cultural attributes are particularly noteworthy:

- AOS-N-1: The 2007 Independent Assessment workforce survey included a “Yes/No” question related to an individual’s knowledge of someone other than his/her self having received a negative reaction from supervision or management for raising an issue or concern related to Nuclear Safety during the past year. The percentage of survey respondents who provided a “Yes” response to this survey question was 7.0%. This is the lowest % in SYNERGY’s industry database. The industry mean is 17.5%.
- AOS-N-2: The 2007 Independent Assessment workforce survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from his/her peers for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 1.3%. This is the lowest % in SYNERGY’s industry database. The industry mean is 4.8%.
- AOS-N-3: The 2007 Independent Assessment workforce survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from his/her supervisor for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 3.2%. This is the third lowest % in SYNERGY’s industry database. The industry mean is 6.1%.
- AOS-N-4: The 2007 Independent Assessment workforce survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from his/her management for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 3.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 7.8%.
- AOS-N-5: The 2007 Independent Assessment workforce survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from senior site management for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 1.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 5.8%.

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### NSC/SCWE Areas for Improvement (AFI)

None were identified.

### NSC/SCWE Areas in Need of Attention (ANA)

ANA-N-1: Management should ensure that Nuclear Safety Priorities and Values are steadfastly and consistently maintained during the conduct of RFO 15. In this regard:

- Demonstrated alignment from the top through management to supervision in the field is essential.
- Communication on the bases/reasons for decisions that could be perceived by the workforce as potentially compromising Nuclear Safety should be timely and effective.

ANA-N-2: There is a continuing need to communicate with the workforce:

- Regarding DBNPS/FENOC management's commitment to provide sufficient resources/funding to continue to improve operational performance and equipment condition.
- On the budgeting process and how decisions are made/priorities set that balance cost and safety considerations.

ANA-N-3: The Electrical Maintenance organization has been identified as a Priority 2 outlier organization based on having provided declined survey ratings of the Overall NSC and the Overall GCWE cultural metrics. This organization represents a localized Area in Need of Attention.

In this regard, based on personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE/LMS-related issues not NSC-related issues.

ANA-N-4: Based on a detailed analysis of key SCWE-related cultural components and attributes, the Site Protection/Security organization has been identified as the most significant DBNPS organizational outlier with respect to the SCWE. This organization represents a localized Area in Need of Attention.

In this regard, based on the survey write-in comments and personnel interviews, the underlying reasons for the lower ratings of certain SCWE cultural attributes provided by personnel within this organization appear to be rooted in GCWE/LMS issues.

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### NSC/SCWE Opportunities for Continued Improvement (OFI)

- OFI-N-1: There are opportunities to further enhance overall organizational effectiveness through increased emphasis on industry benchmarking activities, including adoption of a strategic approach to planning and implementing such activities. The Assessment Team believes that increased emphasis is needed to successfully shift the DBNPS organization's frame of reference from one based primarily on its own experience to one based primarily on current industry standards of excellence. These needs have been recognized by the DBNPS management team and are the subject of CR 07-24794, which was written as a result of the mid-2007 application of the "Performance Improvement Model and Implementation Process (DBNPS-RC-0009)". This finding is classified as an Opportunity for Improvement as opposed to an Area in Need of Attention because it was self-identified and is currently receiving management attention.
- OFI-N-2: There are opportunities to further enhance organizational effectiveness through improving self-assessment activities (particularly snapshot assessments and focused assessments). In this regard, there is a need for a multi-year, integrated self-assessment plan that is sufficiently flexible to address unanticipated or emerging performance assessment needs. In addition, in order to ensure that the organization keeps abreast of current industry standards of excellence, there is a need to increase the extent to which industry peers participate in DBNPS self-assessments. These needs have been recognized by the DBNPS management team and are the subject of CR 07-24791, which was written as a result of the mid-2007 application of the "Performance Improvement Model and Implementation Process (DBNPS-RC-0009)". This finding is classified as an Opportunity for Improvement as opposed to an Area in Need of Attention because it was at least partially self-identified and is currently receiving management attention.
- OFI-N-3: There are opportunities to enhance the effectiveness of DBNPS management's Annual Self-Assessment of its NSC. In this regard:
- The framework for this process is the "INPO Principles for a Strong NSC". The use of currently available performance indicators and other information/ numerical data derived from the DBNPS Annual SCWE survey, NOS personnel interviews and 4 C meeting surveys in this process is appropriate. However, it should be recognized that this information does not fully address the safety culture attributes embodied in each INPO Principle statement and its associated supporting attributes. To close these gaps, it is suggested that the current process be augmented by the inclusion of a set of specific questions for collegial discussion and qualitative rating.
  - A significant amount of the assessment meeting time is currently expended in the "unveiling" of the information/data from the DBNPS Annual SCWE survey, NOS personnel interviews and 4 C meeting surveys. In order to ensure sufficient time for the qualitative discussions suggested above, it is further suggested that this information/data be provided sufficiently in advance of the assessment meeting for it to be evaluated by the meeting participants prior to the meeting.

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- OFI-N-4: There are opportunities to enhance the effectiveness of evaluating and addressing “soft” (cultural) issues whether self-identified or identified through external assessments such as this assessment. By their very nature, assessments of safety culture will frequently identify needs or opportunities for improvement that are “soft” in nature. That is, such needs or opportunities will involve issues related to management/supervisory skills, behaviors & practices; interpersonal relationships; personnel management; trust & mutual respect; quality of communications; and work management & prioritization – as opposed to equipment, programs and processes. Organizations, whether internal or external, who identify such “soft” needs or opportunities for improvement will frequently provide information/insights into the potential contributing factors associated with these needs or opportunities. At least some of this information may be sensitive or confidential in nature. This is particularly likely to be the case for needs or opportunities for improvement that are based on the identification of individual Functional Organizations that are considered to be “organizational outliers”.
- It is suggested that DBNPS management take this into careful consideration when assigning responsibility to individuals for the evaluation and resolution of such identified needs or opportunities. Such care is particularly important when such needs or opportunities are to be addressed through the Corrective Action Program (CAP).
- OFI-N-5: The Records Management organization has been identified as a Priority 3 outlier organization based on declined numerical ratings of key NSC, SCWE and GCWE cultural metrics. This organization represents a localized Opportunity for Improvement.
- OFI-6: The Work Management organization has been identified as a Priority 3 outlier organization based on declined numerical ratings of key NSC cultural metrics. This organization represents a localized Opportunity for Improvement.
- OFI-N-7: Recurring operational problems with the Integrated Control System continue to be a source of frustration to the operations organization. These problems should be addressed as soon as possible.
- OFI-N-8: Low-level Radwaste has been stored on-site for an extended period of time and is a source of concern to the Radiation Protection organization. This material should be shipped off-site as soon as possible. (NOTE: During the week of December 10, 2007, the Assessment Team Leader was informed by DBNPS management that the vast majority of the stored low-level Radwaste was being shipped off-site prior to the start of RFO 15 in late December 2007.)
- OFI-N-9: The Probabilistic Safety Assessment/Risk Engineer position in Work Management should be filled as soon as possible. While this important position has been recognized as a vital hire need for some time, DBNPS has been unsuccessful in recruiting and/or assigning a permanent, full-time qualified engineer to serve in this capacity.
- OFI-N-10: The backlog of procedural changes in Operations continues to be a source of frustration, and the current resource allocation for this purpose does not appear to be sufficient. This matter should be resolved in a timely manner.

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**I.D.3 GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

Overall General Culture & Work Environment (GCWE)

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the DBNPS General Culture & Work Environment is Highly Effective.

GCWE Major Components

SYNERGY's GCWE assessment model includes thirteen major cultural components. As shown in Table 8 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that eight of these major cultural components are Highly Effective and that five are Effective.

**Table 8  
GCWE MAJOR COMPONENTS**

<b>COMPONENT/DIMENSION</b>	<b>DBNPS SITE 2007 RATING</b>
<b>OVERALL GENERAL CULTURE &amp; WORK ENVIRONMENT</b>	<b>HIGHLY EFFECTIVE</b>
High Standards	Highly Effective
Focus on Performance/Accountability	Highly Effective
Continuous Improvement	Highly Effective
Conduct of Work	Highly Effective
Teamwork	Highly Effective
Employee Involvement	Highly Effective
Environment of Dignity, Trust and Respect	Highly Effective
General Communications	Highly Effective
Change Management	Effective
Personnel Development & Training	Effective
Performance Recognition/Reward	Effective
Performance Appraisal	Effective
Overall Personal Satisfaction & Morale	Effective

SYNERGY's GCWE assessment model includes one cross-cutting topical area. The attributes included in this topical area are generally more focused on actual performance than on culture per se. As shown in Table 9 below, the Assessment Team has concluded that the GCWE cross-cutting topical area is Effective.

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**Table 9  
GCWE CROSS-CUTTING TOPICAL AREAS**

<b>TOPICAL AREA</b>	<b>DBNPS SITE 2007 RATING</b>
General Adverse Effects of Workload	Effective

**LD.4 LEADERSHIP, MANAGEMENT, SUPERVISORY BEHAVIORS & PRACTICES RESULTS**

Leadership, Management, Supervisory Behaviors & Practices

The 2007 Independent Assessment of the DBNPS NSC/SCWE included an assessment of two cultural components related to Leadership, Management and Supervisory Behaviors & Practices. These cultural components were included because they are indirectly related to the SCWE.

- Quality of Communications with the Workforce
- Environment of Trust and Mutual Respect

Overall Quality of Communications with the Workforce

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the Overall Quality of Communications with the Workforce at DBNPS is Highly Effective.

The Quality of Communications with the Workforce component includes three cultural sub-components. As shown in Table 10, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that all three of these cultural sub-components are Highly Effective.

**Table 10  
QUALITY OF COMMUNICATIONS WITH THE WORKFORCE SUB-COMPONENTS**

<b>SUB-COMPONENT</b>	<b>DBNPS SITE 2007 RATING</b>
Quality of Supervisor Communications with the Workforce	Highly Effective
Quality of Functional Organization Management Communications with the Workforce	Highly Effective
Quality of Site Senior Management Communications with the Workforce	Highly Effective

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### Environment of Trust and Mutual Respect

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the Overall Environment of Trust and Mutual Respect at DBNPS is Highly Effective.

The Environment of Trust and Mutual Respect component includes three cultural sub-components. As shown in Table 11, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that all three of these cultural sub-components are Highly Effective.

**Table 11**  
**ENVIRONMENT OF TRUST AND MUTUAL RESPECT SUB-COMPONENTS**

<b>SUB-COMPONENT</b>	<b>DBNPS SITE 2007 RATING</b>
Trust and Mutual Respect Between Supervision and the Workforce	Highly Effective
Trust and Mutual Respect Between Functional Organization Management and the Workforce	Highly Effective
Trust and Mutual Respect Between Site Senior Management and the Workforce	Highly Effective



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### I.D.5 GCWE/LMS Findings

#### GCWE/LMS Areas of Strength

Numerous Areas of Strength in the DBNPS GCWE/LMS were identified. These are presented in Attachments 3 and 4 to this Report and are not repeated in this Executive Summary.

#### GCWE/LMS Areas for Improvement (AFI)

None were identified.

#### GCWE/LMS Areas in Need of Attention (ANA)

ANA-G-1: There is a need for increased management attention and focus on providing training and qualification opportunities for Maintenance craft personnel. This is a significant source of frustration within the Maintenance organizations. It appears that workload/resource management is at the root of this concern.

ANA-G-2: The Site Protection/Security organization has been identified as a localized Area in Need of Attention based on the integration of all sources of assessment input. This organization provided notably declined survey ratings for the Overall GCWE and relatively low/significantly declined LMS ratings related to Management.

The survey write-in comments and the personnel interviews confirmed that GCWE/LMS-related issues within this organization warrant additional management attention.

#### GCWE/LMS Opportunities for Continued Improvement (OFI)

OFI-L-1: During the past year, there have been a significant number of personnel changes in the Maintenance supervisory ranks. As a result, within the Maintenance organizations, there is a continuing need to:

- Ensure alignment within the supervisory ranks on maintaining a “quality first” approach to work.
- Promote and support leadership development for the supervisory ranks to ensure positive working relationships

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### **I.D.6 ORGANIZATIONAL SELF CRITICALNESS: EFFECTIVENESS OF SELF-ASSESSMENT ACTIVITIES AND SELF-IDENTIFICATION OF PERFORMANCE WEAKNESSES<sup>5</sup>**

#### Assessment Team Findings

Three Opportunities for Improvement have been identified. These are identified as OFI-N-1, OFI-N-2 and OFI-N-3 in Section I.D.2 above.

#### Assessment Team Observations & Suggestions

The Assessment Team believes that DBNPS is at the point of needing to transition to becoming increasingly self-reliant in its quest for continuous improvement and performance excellence. The Assessment Team believes that the “Performance Improvement Model & Implementation Process (DBBP-RC-0009)” could serve as an engine to drive this transition and encourages its continued use by the DBNPS management team.

Performance in the area of Management Field Observations continues to not fully meet expectations for self-criticalness. This has been noted as an area of weakness by several independent reviewers in the past, including the DBNPS CNRB and INPO/WANO. The need for improvement in this area has been recognized by the DBNPS management team and is the subject of CR 07-24783, which was written as a result of the mid-2007 application of the “Performance Improvement Model and Implementation Process (DBNPS-RC-0009)”. The Assessment Team suggests that DBNPS management evaluate the potential contribution of “frame of reference” issues to this situation. This performance area is classified as an “Observation & Suggestion” rather than as a finding because it was at least partially self-identified and is currently receiving management attention.

#### Assessment Team Conclusion

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that self-assessment activities and the self-identification of performance weaknesses at DBNPS is generally Effective, but with room for further improvement

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<sup>5</sup> Additional details are provided in Sections IV.B.7 and VI of this Report.

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### I.D.7 EFFECTIVENESS OF CORRECTIVE ACTIONS TAKEN TO ADDRESS PREVIOUSLY IDENTIFIED NSC/SCWE AREAS FOR IMPROVEMENT

#### Assessment Team Conclusions

The conclusions of the 2007 Assessment Team are summarized in Table 12 below. Additional details are provided in Section VII of this Report.

**Table 12  
EFFECTIVENESS OF CORRECTIVE ACTIONS  
TAKEN TO ADDRESS NSC/SCWE AFIS PREVIOUSLY IDENTIFIED IN 2006**

<b>NSC/SCWE AFI Previously Identified in 2006</b>	<b>Assessment Team Conclusions</b>
NSC AFI 1: The Nuclear Plant Systems Engineering and Nuclear Warehousing organizations provided ratings of Not Effective for the Overall NSC, NS VB&P, SCWE and ECP key cultural metrics. These organizations represent localized Areas for Improvement.	The actions taken were Effective.
NSC AFI 2: The Engineering Programs organization provided ratings of Marginally Effective for the Overall NSC, NS VB&P and ECP key cultural metrics. The approximate trends for the ratings of the Overall NSC and the SCWE were Very Significantly Declined. This organization represents a localized Area for Improvement.	The actions taken were Effective.
NSC AFI 3: "Functional Organization staffing levels are consistent with the demands of maintaining Nuclear Safety and safe plant operations" was rated as Not Effective. Low ratings of "Adverse Effects of Workload on Nuclear Safety" by thirteen organizations represent indicators of localized staffing, workload and/or work management issues.	The actions taken were Effective, but continued attention is needed.
NSC AFI 4: "Appropriate levels of oversight and control of contractor work activities are provided to ensure that Nuclear Safety is maintained" was rated as Not Effective.	Appropriate actions and planning has been taken in preparation for RFO 15. The effectiveness of these actions will be determined in RFO 15.
NSC AFI 5: "Site funding levels are consistent with the demands of maintaining Nuclear Safety and safe plant operations" was rated as Not Effective.	The actions taken were Effective, but continued attention is needed. (See 2007 ANA-N-2)
NSC AFI 6: "Performance reviews, financial rewards, promotions, personnel recognition and personnel sanctions foster and reinforce attitudes and behaviors that are consistent with a strong Nuclear Safety Culture" was rated as Not Effective.	The actions taken were Effective.

## II. ASSESSMENT SCOPE

### II.A Nuclear Safety Culture/SCWE

#### SYNERGY'S STANDARD CULTURAL MODEL FOR THE NSC

The following areas of the DBNPS NSC/SCWE were assessed using SYNERGY's standard cultural model for the NSC<sup>6</sup>.

The Overall Nuclear Safety Culture, including the following key cultural elements, sub-elements and cross-cutting topical areas:

#### Nuclear Safety Values, Behaviors and Practices

- Standards and Expectations for Nuclear Safety
- Nuclear Safety as Top Priority
- Operational Nuclear Safety
- Identification of Potential Nuclear Safety Issues
- Effective Resolution of Identified Nuclear Safety Issues
- Timely Resolution of Identified Nuclear Safety Issues
- Continuous Improvement of Nuclear Safety Performance
- Confidence in the Effectiveness of the Corrective Action Program (CAP) for the Identification and Resolution of Nuclear Safety Issues (cross-cutting topical area)
- Adverse Effects of Workload on Nuclear Safety (cross-cutting topical area)

#### Safety Conscious Work Environment

- Indicators and Precursors of a Potentially Chilled Work Environment, including personal experience of receiving negative reactions for having raised potential Nuclear Safety issues or concerns.
  - Influence of the General Site Environment on the SCWE
  - Influence of Peers on the SCWE
  - Influence of Supervision on the SCWE
  - Influence of Functional Organization Management on the SCWE
  - Influence of Site Senior Management on the SCWE
- Demonstrated Willingness to Take Appropriate Action
  - Willingness to Inform Supervision or to Document a Potential Nuclear Safety Issue/Concern
  - Willingness to Escalate a Potential Nuclear Safety Issue/Concern to Management

#### Employee Concerns Program Effectiveness

- ECP as an Acceptable Alternative Path for Reporting/Pursuing Potential Nuclear Safety Issues or Concerns
- Overall Employee Confidence in the ECP
- Bases for Employee Confidence in the ECP

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<sup>6</sup> The detailed results of this assessment are provided in Section IV of this Report.

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### SYNERGY'S CULTURAL MODEL FOR NRC RIS 2006-13

The following areas of the DBNPS NSC/SCWE were assessed using SYNERGY's cultural model for the NRC RIS 2006-13 NSC components and attributes<sup>7</sup>:

The Overall Nuclear Safety Culture, including the following key cultural elements and sub-elements:

#### Human Performance Cross-Cutting Components

- Decision-Making
- Resources
- Work Control
- Work Practices

#### Problem Identification and Resolution Cross-Cutting Components

- General Problem Identification and Resolution
- Problem Identification and Resolution – Identification of Issues
- Corrective Action Program
- Certain Elements of the ECP
- Operating Experience
- Self and Independent Assessments

#### Safety Conscious Work Environment Cross Cutting Components

- Environment for Raising Concerns
- Preventing, Detecting and Mitigating Perceptions of Retaliation

#### Other Safety Culture Components

- Accountability
- Continuous Learning Environment
- Organizational Change Management
- Safety Policies

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<sup>7</sup> The results of the assessment of the NRC RIS 2006-13 NSC components and attributes are provided in Attachment 5 to this Report. That assessment did not identify any additional findings beyond those identified in this Report.

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### II.B General Culture & Work Environment

The 2007 Independent Assessment of the DBNPS NSC/SCWE included an assessment of key elements of the General Culture and Work Environment (GCWE) at DBNPS, since industry experience indicates that low GCWE ratings are frequently precursors of potential future challenges to the NSC. The following areas of the DBNPS GCWE were assessed using SYNERGY's standard cultural model for the GCWE<sup>8</sup>:

The Overall GCWE including the following key cultural elements and cross-cutting topical areas:

- High Standards
- Accountability for Performance
- Continuous Improvement
- Conduct of Work
- Teamwork
- Employee Involvement
- Environment of Dignity, Trust and Respect
- General Communications (on topics of interest to the workforce)
- Change Management
- Personnel Development and Training
- Performance Recognition and Reward
- Performance Appraisal
- Overall Personal Satisfaction and Morale
- General Adverse Impacts of Workload (cross-cutting topical area)

### II.C Leadership, Management and Supervisory Behaviors & Practices

The 2006 Independent Assessment of the DBNPS NSC/SCWE included an assessment of two key cultural metrics related to Leadership, Management and Supervisory Behaviors & Practices (LMS) because they are related to the SCWE. Low metric ratings may be leading indicators of potential future challenges to the SCWE. The following areas of DBNPS LMS were assessed using SYNERGY's standard cultural model for LMS<sup>9</sup>:

- Quality of Communications with the Workforce
- Environment of Trust and Mutual Respect

The Quality of Communications metric includes the following three cultural sub-metrics:

- Quality of Supervisor Communications with the Workforce
- Quality of Functional Organization Management Communications with the Workforce
- Quality of Site Senior Management Communications with the Workforce

The Environment of Trust and Mutual Respect metric includes the following three cultural sub-metrics:

- Trust and Mutual Respect Between Supervision and the Workforce
- Trust and Mutual Respect Between Functional Organization Management and the Workforce
- Trust and Mutual Respect Between Site Senior Management and the Workforce

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<sup>8</sup> The results of the assessment of the GCWE are provided in Attachment 3 to this Report.

<sup>9</sup> The results of the assessment of the LMS are provided in Attachment 4 to this Report.

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### **II.D DBNPS Self-Assessment Activities and Self-Identification of Performance Weaknesses**

The 2007 Independent Assessment of the DBNPS NSC/SCWE included an assessment of the effectiveness of DBNPS self-assessment activities and self-identification of performance weaknesses to determine the extent to which the DBNPS organization is sufficiently self-critical<sup>10</sup>.

### **II.E Effectiveness of DBNPS Corrective Actions to Address Previously-Identified Areas for Improvement in the NSC/SCWE**

The 2007 Independent Assessment of the DBNPS NSC/SCWE included an assessment of the effectiveness of DBNPS corrective actions to address the Areas for Improvement in the NSC/SCWE that were identified through the 2006 Independent Assessment<sup>11</sup>.

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<sup>10</sup> The results of this assessment are provided in Section IV.B.7 and Section VI of this Report.

<sup>11</sup> The results of this assessment are provided in Section VII of this Report.

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### III. ASSESSMENT METHODOLOGY

#### III.A INTRODUCTION

The methodology used in the 2007 Independent Assessment of the Nuclear Safety Culture/Safety Conscious Work Environment at the Davis-Besse Nuclear Power Station (DBNPS) was designed to assess organizational culture by obtaining and evaluating information on a comprehensive set of cultural attributes (values, beliefs, behaviors and practices) that define and support a strong Nuclear Safety Culture (NSC) and a strong Safety Conscious Work Environment (SCWE).

This methodology included an assessment of information on cultural attributes related to the General Culture & Work Environment (GCWE) and Leadership, Management and Supervisory Behaviors & Practices (LMS) because it is likely that issues identified in these two cultural areas could represent “precursors” and/or “areas of cultural fragility” signaling future challenges to the NSC/SCWE.

#### III.B SOURCES OF INFORMATION

In performing the 2007 Independent Assessment of the DBNPS NSC/SCWE, the Assessment Team utilized five diverse sources of input:

- Workforce survey numerical results, including 2006-2007 numerical rating trends.
- Confidential workforce survey write-in comments
- Confidential personnel interviews
- Behavioral observations
- Documentation reviews.

All sources of information were evaluated on an integrated basis by the Assessment Team in the process of identifying findings and reaching conclusions.

The survey write-in comments, personnel interviews, behavioral observations and documentation reviews:

- Validated the survey numerical results
- Provided valuable insights into the underlying reasons for the survey numerical ratings
- Contributed to the identification and characterization of Assessment Team findings, suggestions and conclusions.



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### Survey Numerical Results

#### 2007 Independent Assessment Survey Design

SYNERGY's cultural assessment approach relies heavily upon obtaining employee/workforce input as a measure of the values, behaviors and practices that shape organizational culture and performance.

A comprehensive questionnaire was used to confidentially survey the workforce's opinions and to solicit ideas for continuous improvement. The survey questionnaire included a total of 186 multiple-rating question sub-parts and 2 opportunities to provide write-in comments.

- 123 question sub-parts were related directly to the NSC:
  - 81 question sub-parts related to NS Values, Behaviors and Practices.
  - 33 question sub-parts related to the SCWE; and
  - 9 question sub-parts related to the effectiveness of the ECP
- 42 question sub-parts were related to the GCWE. Many of these were very closely linked to the NSC or the SCWE.
- 19 question sub-parts were related to the LMS.
- 2 question sub-parts were related to Industrial Safety

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 provided the capability to isolate specific organizational strengths and weaknesses. The representation of the other demographic categories provided the ability to evaluate rating variations within those categories. The survey was designed to obtain information from a "targeted population" that included all employees and all on-site long-term contractors supporting DBNPS.

#### 2007 Independent Assessment Survey Reliability

To provide assurance of survey reliability, SYNERGY retained Westat, a well recognized expert in the field of survey psychometrics, to measure the psychometric measurement properties of the DBNPS 2007 Nuclear Safety Culture Survey instrument<sup>12</sup> and the bases for other characteristics of the Survey instrument methodology. Four main types of analyses were conducted: internal consistency reliability analysis, factor analysis, safety culture dimension inter-correlations, and tests to differentiate individual organizations based on the dimension scores or metrics. In this regard, based on its independent analysis of the survey instrument, Westat reached the following conclusions:

*"The psychometric properties of the 2007 Davis-Besse Nuclear Safety Culture Survey were found to be well within commonly accepted standards for such instruments. The factor analysis results provided support that the questions were grouped according to their respective nuclear safety culture dimensions and the reliability analysis provided evidence that the respondents were answering consistently across the questions within dimensions. The inter-correlations demonstrated that the dimensions for the NSC model were related but, in general,*

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<sup>12</sup> It should be noted that the DBNPS 2007 Nuclear Safety Culture Survey instrument and the DBNPS 2006 Nuclear Safety Culture instrument are nearly identical.

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*were measuring unique dimensions, while those for the NRC RIS model exhibited very strong inter-correlations, signaling that either there is conceptual overlap between these dimensions or that they are simply highly related. Analyses were conducted to differentiate functional organizations from one another on several key culture survey metrics. This analysis found that SYNERGY's priority rating criteria were similar to or slightly more conservative than a banding approach, although neither approach identified any functional organizations as needing to take remedial action in the near-term."*

The psychometric analysis of the DBNPS 2007 Nuclear Safety Culture Survey instrument marks the third time in calendar year 2007 that Westat has reached favorable conclusions regarding the psychometric properties of SYNERGY Cultural Survey instruments.

In early 2007, Westat conducted psychometric analyses of SYNERGY's standard cultural survey questions and associated cultural models that are used at commercial nuclear power plants<sup>13</sup>. Those analyses addressed four of the cultural models used by SYNERGY:

- SYNERGY's model of the Nuclear Safety Culture
- SYNERGY's model of the General Culture & Work Environment
- SYNERGY's model of Leadership, Management & Supervision
- SYNERGY's model of the NRC RIS 2006-13 Safety Culture Components

Based on the results of those analyses, Westat concluded that:

*"The psychometric properties of the SYNERGY NSC Survey were found to be well within commonly accepted standards for such instruments. The factor analysis results provided support that the questions were grouped according to their respective nuclear safety culture dimensions and the reliability analysis provided evidence that the respondents were answering consistently across the questions within dimensions. SYNERGY's weighting methodology did not impact the metric scores considerably, with most un-weighted and weighted metrics correlating highly or perfectly. The inter-correlations demonstrated that the dimensions were related but, in general, were measuring unique dimensions. Finally, analyses were conducted to differentiate functional organizations from one another on several key survey dimensions. This analysis found that SYNERGY's priority rating criteria were generally more conservative than a banding approach in that the SYNERGY criteria identified more functional organizations as needing to take remedial action in the near-term than a banding approach identified."*

Later in 2007, Westat conducted similar analyses of the psychometric properties of a customized version of the SYNERGY NSC Survey instrument that was utilized at a commercial nuclear fuel cycle facility. For that application, SYNERGY's standard cultural survey questions were customized to reflect the specific nature of the activities conducted at the fuel cycle facility and SYNERGY's model of the NRC RIS 2006-13 Safety Culture Components was utilized. Based on the results of those analyses, Westat concluded that:

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<sup>13</sup> These analyses were conducted on data from 2,096 respondents from an administration of the SYNERGY 2007 NSC Survey at a nuclear power site with three nuclear plants. The SYNERGY 2007 NSC Survey analyzed in this case is nearly identical to the DBNPS 2007 Nuclear Safety Culture Survey instrument.

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*“The psychometric properties of the 2007 NFS Safety Culture Survey were found to be well within commonly accepted standards for such instruments. The factor analysis results provided support that the questions were grouped according to their respective nuclear safety culture dimensions and the reliability analysis provided evidence that the respondents were answering consistently across the questions within dimensions. Analyses were conducted to differentiate functional organizations from one another on several key culture survey metrics. This analysis found that SYNERGY’s priority rating criteria were similar to or slightly more conservative than a banding approach in that the SYNERGY criteria identified more functional organizations as needing to take remedial action in the near-term than a banding approach identified.”*

Additional information on other characteristics of the DBNPS 2007 Nuclear Safety Culture Survey instrument has been provided to DBNPS management on a SYNERGY-proprietary CD-ROM disk.

### 2007 Survey Administration

Participation in the survey was voluntary but strongly encouraged by FENOC/DBNPS. The survey administration period was from September 3, 2007 through September 21, 2007. The survey was administered by FENOC/DBNPS using administration guidance provided by SYNERGY. All FENOC/DBNPS employees and all long-term DBNPS contractors were afforded the opportunity to participate in the survey. Generally, the respondents completed the survey questionnaire anonymously during group meetings; however, opportunities were offered at an individual’s discretion to take the survey at different times or locations. Completed surveys were mailed directly to ORI, Inc., SYNERGY’s independent data processor.

### 2007 Survey Participation<sup>14</sup>

The DBNPS Site Composite Organization survey participation rate was 72%<sup>15</sup>. While somewhat lower than the industry average of 77% for surveys conducted by SYNERGY, this participation rate is sufficient to obtain meaningful insights and to reach conclusions.

A few individual Functional Organizations were identified as "Low Responding" based on survey participation rates less than 40%:

- Nuclear ALARA/Radiation Protection Services – 31%
- Nuclear Technical Training – 36%
- Other Maintenance Organization – 39%
- Other Operations – 39.5%

Due to the lower survey participation rates, interviews were conducted with personnel from these organizations<sup>16</sup> to determine whether the survey numerical results for these organizations were sufficiently representative. Based on the results of the personnel interviews, the Assessment Team concluded that the numerical results are sufficiently representative and can be relied upon.

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<sup>14</sup> Detailed information on survey participation is provided in Attachment 1 to this Report.

<sup>15</sup> Survey participation in 2006 was 70%.

<sup>16</sup> It was determined that the low survey participation rate in the "Other Maintenance Organization" was solely due to non-participation by 12 janitorial or food service contractors. As a result, the Assessment Team determined that personnel interviews were not necessary for the "Other Maintenance Organization".

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### Numerical Results

Numerical ratings were calculated for each survey question/cultural attribute and for each roll-up/aggregation by sub-area, component and major component of each of the four cultural models used for this Assessment:

- SYNERGY's Model of the NSC
- SYNERGY's Model of the GCWE
- SYNERGY's Model of the LMS
- SYNERGY's Model of NRC RIS 2006-13

Numerical ratings were developed for the DBNPS Site Composite organization, major DBNPS Functional Organizations, individual DBNPS Functional Organizations and DBNPS Demographic Categories<sup>17</sup>.

### Industry Benchmarking and Rating Conventions

The 2007 Independent Assessment workforce survey results were compared with the results from cultural assessments recently conducted by SYNERGY for commercial nuclear power plant Sites in the United States. The industry database used in this assessment includes 20 Sites with current NSC assessment data (i.e., data obtained within the past 30 months)<sup>18</sup>.

In presenting the results of the DBNPS NSC workforce survey, SYNERGY has provided benchmarking information in the context of commercial nuclear power plant industry norms<sup>19</sup>. In this regard, the results presented herein for numerical ratings of individual survey questions/cultural attributes and for numerical ratings of integrated cultural metrics have been characterized by SYNERGY as follows:

- A perceived Area of Strength is equivalent to a top quartile rating within the commercial nuclear power plant industry.
- A perceived Area of Adequacy/Competency is equivalent to a second or third quartile rating within the commercial nuclear power plant industry.
- A perceived Opportunity for Improvement is equivalent to a rating near the bottom of the third quartile within the commercial nuclear power plant industry.
- A perceived Area in Need of Attention is equivalent to a fourth quartile rating within the commercial nuclear power plant industry.
- A perceived Area for Improvement is equivalent to a bottom decile rating within the commercial nuclear power plant industry.

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<sup>17</sup> Detailed information on these survey ratings has been provided in various formats on a SYNERGY-proprietary CD-ROM disk provided to DBNPS separately.

<sup>18</sup> As part of an Independent Assessment of another Nuclear Power Plant Station in 2007, SYNERGY demonstrated that the Sites included in this industry database reflect a representative spectrum of performance and culture within the commercial nuclear power industry.

<sup>19</sup> SYNERGY drew from its large commercial nuclear power plant industry database to identify and apply industry norms for each individual cultural attribute and for the roll-up of these attributes into cultural metrics associated with the components of each of the four cultural models used in this Assessment.

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### Organizational Analyses

The survey numerical results were used to identify individual Functional Organizations at the DBNPS Site that:

- Provided ratings for key cultural metrics that were significantly higher than the DBNPS Site Composite Organization ratings.
- Provided ratings for key cultural metrics that were notably or significantly lower than the DBNPS Site Composite Organization ratings.
- Provided key cultural metric ratings that represent significant improvement since the 2006 Independent Assessment.
- Provided key cultural metric ratings that represent significant or notable decline since the 2006 Independent Assessment.
- Provided key cultural metric ratings that, when compared to industry norms of acceptability, indicate that the Functional Organization should be considered as an “organizational outlier”.
- Provided key cultural metric ratings that, when compared to DBNPS norms, indicate that the Functional Organization should be considered as a “relative organizational outlier”.

The results of the Organizational Analyses are presented in Section V of this Report.

### Trending Analyses

The vast majority of the survey questions/cultural attributes evaluated in the 2007 Independent Assessment were previously evaluated in the 2006 Independent Assessment<sup>20</sup>. Accordingly, there is a wealth of 2006-2007 trending information available for individual cultural attributes and for roll-ups/aggregations of individual cultural attributes into cultural areas, cultural sub-components, cultural components and key cultural metrics.

This information is available for the DBNPS Site Composite organization, major DBNPS Functional Organizations, individual DBNPS Functional Organizations and DBNPS Demographic Categories<sup>21</sup>.

The 2007 DBNPS NSC Workforce Survey also included 4 “special topic” questions designed to obtain inherent trending information<sup>22</sup> for specific cultural attributes of interest<sup>23</sup>.

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<sup>20</sup> Of the 186 survey questions used in the 2007 DBNPS NSC Workforce Survey, 179 can be directly trended against the 2006 DBNPS NSC Workforce Survey questions. Of the remaining 7 survey questions: 4 were “special topic” questions designed to obtain inherent trending information; 2 were new survey questions designed to obtain additional workforce input related to the GCWE cultural component “Performance Appraisal”; and 1 was a new NS VB&P survey question designed to obtain additional workforce input related to “Decision Making”.

<sup>21</sup> Detailed information on these survey ratings has been provided in various formats on a SYNERGY-proprietary CD-ROM disk, which has been provided to DBNPS separately.

<sup>22</sup> These survey questions were structured using a question format along the lines of “During the past year, we have made progress in achieving improvement in the effectiveness of \_\_\_\_\_”.

<sup>23</sup> The results associated with these 4 “special topic” questions are presented in Attachment 6 to this Report.

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### Confidential Survey Write-In Comments<sup>24</sup>

In order to obtain additional insights into issues that may be contributing to the organizational culture at DBNPS or within individual DBNPS Functional Organizations, SYNERGY's assessment methodology included the use of two survey write-in comment opportunities. The two write-in comment opportunities solicited input on "strengths, weaknesses and suggestions for improvement" in the NSC or GCWE, respectively.

Write-in comments were provided by 31% of the survey participants<sup>25</sup>, which is slightly below industry norms (33%) based on SYNERGY's experience. The percentage of DBNPS personnel providing write-in comments is roughly equivalent to 22% of the Site population.

There were 518 discrete write-in comments. These comments were reviewed and classified:

- As positive, negative or neutral in nature<sup>26</sup>
- As relating to specific cultural areas or topics

Comments within specific cultural areas or topics were analyzed to identify recurring themes and to identify issues that might require additional evaluation through personnel interviews and/or documentation reviews.

Information and insights obtained from the write-in comments related to the NSC/SCWE are provided in individual sub-sections of Section IV of this Report. Information and insights obtained from the write-in comments related to the GCWE and the LMS are provided in individual sub-sections of Attachments 3 and 4 to this Report, respectively.

The write-in comments served to obtain/provide information that:

- Validated the numerical survey results
- Provided insights into the underlying reasons for the numerical survey ratings
- Identified potential issues that were not specifically addressed by the survey questions
- Provided insights into the underlying reasons for the lower numerical survey ratings provided by individual organizations identified by SYNERGY as "outlier organizations"
- Contributed to the identification and characterization of Assessment Team findings, suggestions and conclusions.

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<sup>24</sup> The write-in comments were solicited with the guarantee that they would be treated in confidence with respect to potential attribution of the comments to specific individuals. Hence, access to the write-in comments is controlled and limited. In accordance with SYNERGY's Confidentiality Protection Policy: (1) The write-in comments have been redacted as necessary to protect the identity of the individuals providing the comments; (2) A copy of the redacted write-in comments has been provided to DBNPS senior management on the basis that access to this information will be controlled and limited to those with a genuine "need to know".

<sup>25</sup> In the 2006 Independent Assessment, 35% of the survey participants provided write-in comments.

<sup>26</sup> 25% of the survey write-in comments were positive in nature, 74% were negative in nature and 1% were neutral in nature. This distribution is somewhat more biased to the negative side than is typically observed by SYNERGY; a typical distribution is closer to 30% positive and 70% negative. It is noteworthy that the DBNPS Site Protection/Security organization, which accounted for 9% of the survey participants, provided 14% of the total write-in comments and 17% of the negative write-in comments.

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### Confidential Personnel Interviews<sup>27</sup>

The Assessment Team conducted 125 confidential interviews of FENOC/DBNPS personnel.

Personnel interviews were conducted for one or more of the following specific reasons:

- To validate survey numerical results through the use of structured interview questions in interviews of a broad cross-section of the DBNPS organization with individuals that had been randomly selected by the Assessment Team.
- To obtain insights into the underlying reasons for the low survey ratings provided by the individual DBNPS Functional Organization that was identified in the 2007 Independent Assessment of the NSC/SCWE as a Priority 2 “organizational outlier” based on industry norms.
- To obtain insights into the underlying reasons for the improved survey ratings provided by individual DBNPS Functional Organizations that were identified in the 2006 Independent Assessment of the NSC/SCWE as Priority level 1 or 2 “organizational outliers” based on industry norms.
- To obtain additional information on individual DBNPS Functional Organizations that were identified as “low responding organizations” based on low 2007 survey participation rates. Structured interview questions were used to determine whether the numerical survey ratings provided by those organizations were sufficiently representative.
- To obtain information related to DBNPS self-assessment activities and DBNPS self-identification of performance weaknesses.
- To obtain information related to the effectiveness of the corrective actions taken by DBNPS to address the NSC-related Areas for Improvement identified through the 2006 Independent Assessment of the NSC/SCWE.
- To obtain information related to NRC RIS 2006-13 NSC attributes that are not amenable to being addressed through the workforce survey.
- To follow-up on issues identified through the analysis of the 2007 survey write-in comments.

The distribution of the 125 personnel interviews by category is provided in Table 13 below.

**Table 13**

<b>INTERVIEW CATEGORY</b>	<b>NUMBER</b>
FENOC Senior Management	6
DBNPS CNRB Members	4
DBNPS Senior Management	5
DBNPS Managers	16
Personnel Responsible for 2006 AFI Corrective Actions	8
Program/Process Leads (e.g., ECP, SCWERT, OPEX, SA/IA, CAP)	8
Random Samples	78
<b>Total</b>	<b>125</b>

<sup>27</sup> Additional information related to the personnel interviews conducted by the Assessment Team is provided in Attachment 2 to this Report.

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The distribution of the 125 personnel interviews by Major Functional Organization is provided in Table 14 below.

**Table 14**

MAJOR ORGANIZATION	TARGETED	RANDOM
FENOC Nuclear Management	6	0
DBNPS CNRB Members	4	0
Site VP Organizations	14	6
Director of Site Operations Organizations	6	26
Director of Site Maintenance Organizations	2	21
Director of Site Engineering Organizations	6	14
Director of Site Performance Improvement Orgs.	9	11
<b>Total</b>	<b>47</b>	<b>78</b>

The distribution of the 78 randomly-selected personnel interviews by Functional Organization is provided in Table 15 below.

**TABLE 15**

MAJOR ORGANIZATION	RANDOM INTERVIEWS
Site Protection/Security	6
Shift Operations	6
Operations Services	7
Radiation Protection Organizations	8
Chemistry	3
Nuclear Warehousing	2
Electrical Maintenance	7
I&C Maintenance	3
Mechanical Maintenance	3
FIN Maintenance	2
Maintenance Services	3
Work Planning	3
Plant Engineering	7
Design Engineering	3
Technical Services Engineering	3
Other Engineering	1
Technical Training	4
Operations Training	3
Records Management	2
Emergency Response	2
<b>Total</b>	<b>78</b>



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### Documentation Reviews

The Assessment Team obtained and reviewed an extensive amount of documentation, including (but not limited to):

- FENOC/DBNPS Policies, Programs, Processes, Procedures and Business Practices related to the NSC/SCWE.
- Other 2007 Confirmatory Order Independent Assessments and associated (selected) Condition Reports (i.e., Operations Performance, Engineering Programs Effectiveness and the Corrective Action Program Implementation)
- 2007 Focused and Snapshot Self-Assessments and associated (selected) Condition Reports
- 2007 Section Integrated Performance Assessments and associated (selected) Condition Reports
- 2007 Annual Self-Assessment of the NSC and associated Condition Reports
- 2007 DBNPS SCWE Survey Results and associated Condition Reports
- 2007 FENOC/DBNPS Nuclear Oversight Quarterly Audit Reports
- 2007 NRC Inspection Reports for DBNPS
- 2007 Employee Concerns Program Status Reports
- 2007 Operating Experience Program Status Reports
- 2007 Operational Decision Making Issue (ODMI) Reports
- 2007 Problem Solving and Decision Making (PSDM) Reports
- 2007 CNRB Meeting minutes and associated correspondence
- 2007 CNRB Sub-Committee Meeting minutes and information packages (selected)
- 2007 DBNPS Nuclear Oversight NSC/SCWE Survey & Interview Results
- FENOC/DBNPS Industry Benchmarking Database
- 2007 DBNPS 4Cs Meeting Minutes and Survey Results
- 2007 DBNPS Excellence Plan
- 2007-2011 FENOC Business Plan
- FENOC/DBNPS Management Incentives
- FENOC/DBNPS Key Performance Indicators
- DBNPS Monthly Performance Indicator Reports
- Condition Reports related to AFIs resulting from the 2006 Independent Assessment
- Condition Reports related to the 2007 WANO Peer Review at DBNPS
- Condition Reports related to the 2007 Self-Assessment in accordance with DBBP-RC-0009, "Performance Improvement Model and Implementation Process"
- Final Report of the Pre-Nuclear Industry Evaluation Program (NIEP) Self-Assessment of Fleet Oversight (FL-SA-07-001)

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### Behavioral Observations

The Assessment Team performed the following behavioral observations during the conduct of the 2007 Independent Assessment:

- October 2007 Annual DBNPS Self-Assessment of the Nuclear Safety Culture
- September 2007 DBNPS CNRB meeting
- September 2007 DBNPS CNRB Sub-Committee meetings
- Multiple DBNPS Management Alignment and Ownership Meetings in September, October and November 2007
- CARB Meeting in October 2007
- Monthly Supervisor Briefing in October 2007
- Multiple Work Management meetings in November 2007
- Multiple Field Observations of Maintenance in November 2007 (including supervisor briefings, pre-job briefs and conduct of maintenance) – I&C Maintenance, Electrical Maintenance and Mechanical Maintenance

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### IV. NSC/SCWE DETAILED RESULTS

#### IV.A OVERALL NUCLEAR SAFETY CULTURE (NSC)

##### INTRODUCTION

The Overall NSC rating is based upon the integration of the ratings of:

- Nuclear Safety Values, Behaviors & Practices (NS VB&P)
- The Safety Conscious Work Environment (SCWE)
- The Effectiveness of the Employee Concerns Program (ECP)

##### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

###### DBNPS Site Composite Rating of the Overall NSC

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the Overall Nuclear Safety Culture is 4.22, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY's industry database. This rating improved by 2.7% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The Overall NSC rating, which includes the SCWE, is based upon the integration of numerical ratings of 120 discrete survey questions/cultural attributes. Of these:

- 118 are characterized as perceived "Areas of Strength", based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.
- The remaining 2 cultural attributes are characterized as perceived "Areas of Adequacy/Competency", based upon numerical ratings that are in the second quartile of the industry as benchmarked against commercial nuclear plant norms

Representative "Areas of Strength" are identified in subsequent sections of this Report, which address each of the NSC components, sub-components and sub-areas individually.

2006-2007 trending information is available for 119 of the NSC cultural attributes. Of these, 118 attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment:

- 3 showed significant improvement ( $\geq 10\%$ )
- 18 showed notable improvement ( $\geq 5\%$ )
- 30 showed nominal improvement ( $\geq 2.5\%$ )
- 67 were relatively steady
- 1 showed nominal decline ( $\geq 2.5\%$ )

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided relatively low ratings of the Overall NSC, which while acceptable based on industry norms, are noteworthy:

- Electrical Maintenance: 3.82

Organizations providing Overall NSC ratings showing the most significant declining 2006-2007 trends include:

- Electrical Maintenance: (↓7%)
- Records Management: (↓7%)
- Work Management: (↓6%)

Organizations providing Overall NSC ratings showing the most significant improving 2006-2007 trends include:

- Nuclear Plant Systems Engineering (↑ 22%)
- Nuclear Warehousing (↑ 16%)
- Engineering Programs (↑ 13%)
- Operations Training (↑ 10%)

It is noteworthy that the three DBNPS individual Functional Organizations that were identified as localized Areas for Improvement in the 2006 Independent Assessment of the NSC/SCWE showed the most significant improvement.

### NUCLEAR SAFETY CULTURE VERSUS NUCLEAR SAFETY PERFORMANCE

The objective of this Independent Assessment was to evaluate the Nuclear Safety Culture at DBNPS. The Assessment Team believes that there continues to be a gap between the DBNPS Nuclear Safety Culture and DBNPS Nuclear Safety Performance. As indicated previously, the Assessment Team considers the Nuclear Safety Culture at DBNPS to be Highly Effective and DBNPS Nuclear Safety Culture Performance to be Effective.

In this regard, it is noteworthy that a number of other independent, external reviewers – whose focus was primarily on Nuclear Safety Performance – have all concluded that DBNPS Nuclear Safety Performance is “Effective”.

- In its report of the Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2007 dated August 9, 2007), the Independent Assessment Team concluded that Davis-Besse’s implementation of the CAP is Effective.
- In its report of the Independent Assessment of Operations Performance at DBNPS (COIA-CAP-2007 dated August 10, 2007), the Independent Assessment Team concluded that plant operations are being conducted Safely and Effectively.
- In its report of the Independent Assessment of Engineering Programs Effectiveness at DBNPS (COIA-ENG-2007 dated October 7, 2007), the Independent Assessment Team concluded that the engineering programs at DBNPS are Effective overall, and found performance in each of the six areas designated for assessment to be Effective.
- Based on the results of the most recent INPO/WANO Peer Team Plant Evaluation of DBNPS, the overall performance rating of DBNPS was raised to a level that is equivalent to Effective performance.

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### IV.B NUCLEAR SAFETY VALUES, BEHAVIORS AND PRACTICES

#### INTRODUCTION

The overall Nuclear Safety Values, Behaviors & Practices rating is based upon the integration of the ratings of the following cultural components:

- Expectations for Nuclear Safety
- Nuclear Safety as Top Priority
- Operational Nuclear Safety
- Identification of Potential Nuclear Safety Issues or Concerns
- Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns
- Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns
- Continuous Improvement of Nuclear Safety Performance

The following NS VB&P-related Topical Areas were also assessed<sup>28</sup>.

- Confidence in the effectiveness of the Corrective Action Program for identification, processing and resolution of Nuclear Safety Issues
- Adverse effects of workload on Nuclear Safety

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Nuclear Safety Values, Behaviors & Practices

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of Overall Nuclear Safety Values, Behaviors & Practices is 4.12, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY's industry database. This rating improved by 3.0% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The overall NS VB&P rating is based upon the integration of numerical ratings of 78 discrete survey questions/cultural attributes. Of these:

- 76 are characterized as perceived "Areas of Strength", based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.
- The remaining 2 cultural attributes are characterized as perceived "Areas of Adequacy/Competency", based upon numerical ratings that are in the second quartile of the industry as benchmarked against commercial nuclear plant norms

Representative "Areas of Strength" are identified in subsequent sections of this Report, which address each of the above-mentioned NS VB&P sub-components and topical areas individually.

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<sup>28</sup> A NS VB&P Topical Area is a cross-cutting set of related NS VB&P cultural attributes. The attributes included in a Topical Area are generally more focused on actual Nuclear Safety performance than on the Nuclear Safety Culture per se. These attributes are also included in the specific NS VB&P cultural sub-component categories that they pertain to.

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2006-2007 trending information is available for 77 of the 78 NS VB&P cultural attributes. Of these, 76 attributes showed either improved or relatively steady ratings and 1 showed nominal decline since the 2006 Independent Assessment

- 2 showed significant improvement ( $\geq 10\%$ )
- 12 showed notable improvement ( $\geq 5\%$ )
- 19 showed nominal improvement ( $\geq 2.5\%$ )
- 43 were relatively steady
- 1 showed nominal decline ( $\geq 2.5\%$ )

The two cultural attributes with 2006-2007 trends representing Significant Improvement were:

- Sufficiency of financial resources to maintain Nuclear Safety and safe plant operations (19% ↑)
- Sufficiency of staffing levels to maintain Nuclear Safety and safe plant operations (14% ↑)

It is noteworthy that the two cultural attributes that showed the most significant improvement were both identified as Areas for Improvement in the 2006 Independent Assessment of the NSC/SCWE.

The twelve cultural attributes with 2006-2007 trends representing Notable Improvement were:

- Willingness to identify or pursue potential NS issues/concerns without worrying about increasing workload for self or others (9% ↑)
- Ability to effectively resolve potential NS issues/concerns is not adversely affected by workload (9% ↑)
- Willingness to identify or pursue potential NS issues/concerns without worrying about adversely affecting schedules/meeting goals (8% ↑)
- Ensuring that the lessons learned from events (both industry and DBNPS) are communicated in a timely manner to affected personnel (8% ↑)
- Ability to identify potential NS issues/concerns is not adversely affected by workload (7% ↑)
- The message that Nuclear Safety is the highest priority is frequently and consistently reinforced in communications from senior and corporate management (6% ↑)
- Strict adherence to procedural requirements (6% ↑)
- Effective measures and controls are used to ensure radiological safety (6% ↑)
- Using the operating experience of others to prevent the occurrence of events at DBNPS (6% ↑)
- Limiting and controlling the use of temporary modifications and compensatory measures that rely upon manual actions (5% ↑)
- Confidence that adverse trends will be identified through the CAP (5% ↑)
- Lessons learned from events (both industry and DBNPS) are appropriately addressed through changes to programs, procedures, training and equipment (5% ↑)

The one cultural attribute with a 2006-2007 trend representing a Nominal Decline was “Actively seeking out new ideas and best practices from other nuclear plants or nuclear organizations” (2.6% ↓)

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided relatively low ratings of Overall NS VB&P, which while acceptable based on industry norms, are noteworthy:

- Electrical Maintenance: 3.68

Organizations that provided Overall NS VB&P ratings showing the most significant declining trends include:

- Electrical Maintenance: (↓8%)
- Records Management: (↓7%)
- Work Management: (↓7%)

Organizations provided Overall NS VB&P ratings showing the most significant improving trends include:

- Nuclear Plant Systems Engineering (↑ 29%)
- Nuclear Warehousing (↑ 31%)
- Engineering Programs (↑ 20%)

It is noteworthy that the three DBNPS individual Functional Organizations that were identified as localized Areas for Improvement in the 2006 Independent Assessment of the NSC/SCWE showed the most significant improvement.

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### IV.B.1 Standards and Expectations for Nuclear Safety

#### INTRODUCTION

This NS VB&P cultural component is an integrated measure of attributes related to the communication, understanding, internalization, reinforcement and modeling of standards and expectations for Nuclear Safety performance.

#### NUMERICAL SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Standards and Expectations for Nuclear Safety

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Standards and Expectations for Nuclear Safety” is 4.34, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2.4% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 7 of the individual “Standards and Expectations for Nuclear Safety” cultural attributes showed either nominally improved or relatively steady ratings since the 2006 Independent Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 7 of the individual “Standards and Expectations for Nuclear Safety” cultural attributes are perceived by the workforce to be “Areas of Strength”.

- Individuals accept personal responsibility for identifying and reporting potential Nuclear Safety issues or concerns. (4.49, ↑3.3%, 98.7% positive response)
- Standards and expectations for Nuclear Safety performance are effectively communicated and well understood by the workforce. (4.38, ↑3.3%, 98.0% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to, demonstrated and reinforced by supervisors. (4.34, ↑2.0%, 97.0% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to by individual workers. (4.28, ↑2.4%, 98.2% positive response)
- Peers reinforce standards and expectations for Nuclear Safety performance. (4.24, ↑1.8%, 97.8% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to, demonstrated and reinforced by management. (4.24, ↑2.1%, 96.3% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to, demonstrated and reinforced by site senior management. (4.24, ↑3.9%, 95.9% positive response)



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### SURVEY WRITE-IN COMMENTS

There were very few (9) survey write in comments related to the “Standards and Expectations for Nuclear Safety” cultural component. Of these, 5 were positive in nature noting management’s commitment, communication, and active involvement in supporting high expectations for Nuclear Safety. The other 4 comments, which were negative in nature, did not exhibit a common theme.

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

Personnel interviews and behavioral observations validated the survey numerical ratings in that personnel interviewed indicated that nuclear safety expectations and standards had been effectively communicated to the workforce and had been included in training.

Personnel interviews indicated that some are concerned that the FENOC goal of being 1<sup>st</sup> Quartile in every aspect of performance is unrealistic, particularly with the budget limitations that exist.

### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

None

#### Assessment Team Observations

Some within the DBNPS organization, most notably senior managers and Nuclear Oversight personnel, expressed a view that there is a need to “raise the bar” in terms of Site standards of excellence as a means to drive further performance improvements and to increase overall organizational effectiveness. The Assessment Team concurs with this perspective. As previously noted, the Assessment Team believes that the DBNPS workforce continues to have a somewhat less than fully accurate frame of reference with respect to current industry standards of excellence.

#### Assessment Team Conclusion

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Standards and Expectations for Nuclear Safety” cultural component is Effective, with room for further improvement.

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### IV.B.2 Nuclear Safety as Top Priority

#### INTRODUCTION

This NS VB&P cultural component is an integrated measure of attributes related to attitudes, behaviors, practices and decisions that reflect Nuclear Safety as the organization's top priority.

#### NUMERICAL SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Nuclear Safety as Top Priority

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of "Nuclear Safety as Top Priority" is 3.96, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY's industry database. This rating improved by 3.9% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 11 of the individual "Nuclear Safety as Top Priority" cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. Two attributes showed significant improvement ( $\geq 10\%$ ) and one attribute showed notable improvement ( $\geq 5\%$ ):

- Sufficiency of financial resources to maintain Nuclear Safety and safe plant operations (3.67,  $\uparrow 19\%$ , 88.4% positive response)
- Sufficiency of staffing levels to maintain Nuclear Safety and safe plant operations (3.47,  $\uparrow 14\%$ , 81.3% positive response)
- The message that Nuclear Safety is the highest priority is frequently and consistently reinforced in communications from senior and corporate management (4.48,  $\uparrow 6\%$ , 97.8% positive response)

It is particularly noteworthy that the two areas showing the most significant improvement were characterized as perceived "Areas for Improvement" in the 2006 Independent Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, ten of the eleven individual "Nuclear Safety as Top Priority" cultural attributes are perceived by the workforce to be "Areas of Strength". Several of these are identified below:

- The message that Nuclear Safety is the highest priority is frequently and consistently reinforced in communications from site senior management and corporate nuclear management. (4.48,  $\uparrow 6\%$ , 97.8% positive response)
- Attitudes, behaviors and actions demonstrate that Nuclear Safety and safe plant operations are our primary responsibility and our over-riding priority. (4.33,  $\uparrow 3\%$ , 98.4% positive response)

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- The influence of Site senior management in promoting Nuclear Safety priorities by “walking the talk” and leading by example. (4.02, ↑3%, 93.7% positive response)
- The influence of Functional Organization management in promoting Nuclear Safety priorities by “walking the talk” and leading by example. (4.00, ↑1.5%, 92.3% positive response)

### Lowest Rated Cultural Attributes

The lowest rated “Nuclear Safety as Top Priority” cultural attribute was “Sufficiency of staffing levels to maintain Nuclear Safety and safe plant operations.” (3.47, ↑14%, 81.3% positive response)

Based on comparing the DBNPS Site Composite survey rating of this cultural attribute against commercial nuclear power plant industry norms, this cultural attribute is perceived by the workforce to be an “Area of Strength”. It is noteworthy that the rating of this cultural attribute, which was identified as an “Area for Improvement” in the 2006 Independent Assessment, has improved significantly.

The second lowest rated “Nuclear Safety as Top Priority” cultural attribute was “Properly balancing Nuclear Safety, production, schedule and cost priorities as demonstrated by decisions related to the planning and execution of outages. (3.52, ↑3%, 83.8% positive response)

Based on comparing the DBNPS Site Composite survey rating of this cultural attribute against commercial nuclear power plant industry norms, this cultural attribute is perceived by the workforce to be an “Area of Adequacy”. It is noteworthy that the rating of this cultural attribute, which was identified as an “Area in Need of Attention” in the 2006 Independent Assessment, improved nominally.

### SURVEY WRITE-IN COMMENTS

There were 53 survey write in comments related to the “Nuclear Safety as Top Priority” cultural component. Of these, 7 were positive in nature, 44 were negative in nature and 2 were neutral.

- The positive comments indicated that Nuclear Safety is the top and overriding priority at DBNPS.
- The negative comments indicated concerns that:
  - Budget takes priority over Nuclear Safety. (10 comments)
  - Outage schedule and budget pressures are taking priority over Nuclear Safety. (10 comments)
  - Funding and resources are pressuring the ability to maintain appropriate levels of Nuclear Safety. (8 comments)
  - FENOC management places budget, production, and/or schedule before Nuclear Safety. (7 comments)

A number of the negative comments also expressed concern that the pressures on production and budget may be leading DBNPS back to the culture and environment that resulted at the time of the Reactor Vessel Head event. The issues/concerns identified in

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the negative survey write-in comments are similar to those raised in the 2006 survey write-in comments. However, the number of negative write-in comments related to this cultural component has declined somewhat since the 2006 Independent Assessment.

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

Personnel interviews validated the survey results in that:

- All of those interviewed indicated that Nuclear Safety is the top priority at DBNPS.
- No one was aware of any situation where Nuclear Safety has been compromised in recent times.
- The vast majority of personnel interviewed indicated that the attitudes, behaviors and actions of their peers, supervisor, management and senior management consistently demonstrate that nuclear safety and safe facility operations are the over-riding priorities at DBNPS. The vast majority of personnel interviewed indicated that they did not have to compromise the quality of their work in order to cut costs or to meet deadlines or schedules. A few indicated that:
  - Time pressures occasionally impact work quality.
  - They are too consumed with work to think ahead and be proactive.

Some of the personnel interviewed expressed concerns similar to the following:

- Some workgroups are understaffed and people have to work overtime to try to keep up.
- Some of the new hires are not fully productive because they have not completed all of their training.
- Some people believe that corporate will not fully support nuclear safety in the future through adequate budgets and resources. They are concerned that budgets are getting tighter and that this may lead to conditions where production and schedule pressures will interfere with Nuclear Safety as the top priority.
- There is a perceived need to continue to reinforce a “quality before production” mentality down to the supervisory ranks in the Maintenance organization. Many feel that schedule pressure is high and that supervision is driven to meet the scheduled finish time, regardless of affect on work (although none was aware of a situation where Nuclear Safety had been actually compromised). Some are watching carefully to see how the outage plays out; they hear that quality and doing it right the first time will prevail, however, they expect “business as usual.”

Behavioral observations validated the survey results in that Nuclear Safety priorities were a primary consideration in all activities observed. In this regard, a few “good catches” were observed during work planning & scheduling and maintenance work activities.

Interviews with a variety of personnel indicate that the planning and preparations for RFO15 is vastly improved compared to RFO14. The scope of work for the outage is considered by most to be both appropriate and doable. Indications are that Nuclear-Safety related scopes of work were carefully reviewed for inclusion in RFO15.

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Personnel interviews and documentation reviews indicate that DBNPS management has focused attention on addressing the staffing, workload and work management issues identified in the 2006 Independent Assessment. During the past year, the Vital Hires program has been effective in filling many of the previously open positions. In addition, in anticipation of retirements (aging work force) and increasing workloads in certain areas (e.g., due to the implementation of the PM Templates), DBNPS management has hired additional staff beyond its authorized allocation; as of November 2007, DBNP was 24 positions over its authorized allocation.

Interviews with Engineering Organization personnel indicate that progress has been made in:

- Staffing open positions and filling some critical supervisor slots with qualified individuals. However, they are experiencing some difficulties with staff retention with 10 unanticipated departures this year.
- Reducing their overall backlog from 1700 items to 1100 items over the last year.
- Improving work prioritization and management for the engineering staff.
- The use of Plant Health Reports – they are viewed as a positive means for communicating and prioritizing system needs.

Interviews with Maintenance Organization personnel indicate that progress has been made in:

- Increasing staffing, including additional supervisory positions to increase presence in the field.
- Reducing both corrective and elective maintenance backlogs.

Interviews with Operations Organization indicate that many feel that their workload is high and that overtime levels continue to be high.

Interviews with Training Organization personnel indicate that some individuals continue to be concerned about the lack of aggressive hiring in training, given the anticipated increase in training needs to address the aging workforce. Some also noted that overtime levels within the Training Organization continue to be high.

In its report of the Independent Assessment of Engineering Programs Effectiveness at DBNPS (COIA-ENG-2007 dated October 7, 2007), the Independent Assessment Team noted that:

*“The number of Engineering Change Process documents in Design Engineering is now about 300, compared to about 500 in early 2006, about 700 in early 2005, and about 900 in early 2004. The total engineering backlog is actively tracked and has been reduced by about 400 items in 2007, with a current population of about 1170 items.”*

*“Backlogs have been lowered near target levels in plant engineering and technical services engineering, and continue to improve in design engineering.”*

*“There is a strong commitment to proactively address staffing issues that will occur due to retirements over the next few years. The department has*

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*hired or plans to hire several engineers in 2007 and 2008. There is also a strong engineering co-op student program with a local university, which is the source of several new hires. The director has authorization to increase his headcount over baseline in 2008 to accommodate the new hires. There are also plans to supply seven SRO candidates from engineering over the next four years. These candidates will eventually fill key engineering or plant staff positions.”*

In its report of the Independent Assessment of Operations Performance at DBNPS (COIA-CAP-2007 dated August 10, 2007), the Independent Assessment Team identified several Areas in Need of Attention, including the following:

*“Almost everyone thought that Operation’s manpower was adequate to continue safe operation of the plant, and the assessment team did not see any examples that would lead us to conclude that manpower is in any way impacting safe plant operation. However, SRO manning was expressed as a concern by about 30 to 40 percent of those interviewed, including non-SROs. Although on-shift levels are at desired levels, minus one, the SROs have to get their own reliefs and have a hard time getting staff SROs because no one wants to work someone’s shift on their days-off. In addition, shift SROs find it difficult to get promotions because it would leave the shift crew shorthanded. The current SRO class should help with this shortage if they are put on shift or in some way assigned to allow the experienced on-shift SROs a relief for leave and promotional possibilities.”*

### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

Two Areas in Need of Attention have been identified:

1. Management should ensure that Nuclear Safety Priorities and Values are steadfastly and consistently maintained during the conduct of RFO 15. In this regard:
  - Demonstrated alignment from the top through management to supervision in the field is essential.
  - Communication on the bases/reasons for decisions that could be perceived by the workforce as potentially compromising Nuclear Safety should be timely and effective.
2. There is a continuing need to communicate with the workforce:
  - Regarding DBNPS/FENOC management’s commitment to provide sufficient resources/funding to continue to improve operational performance and equipment condition. It is suggested that focus be placed on communicating to the workforce about the short-term and long-term asset improvement plans for DBNPS to demonstrate FENOC’s long-term commitment to the safe, secure, reliable and cost effective operation of DBNPS.
  - On the budgeting process and how decisions are made/priorities set that balance cost and safety considerations.

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Two Opportunities for Improvement have been identified:

1. Low-level Radwaste has been stored on-site for an extended period of time and is a source of concern to the Radiation Protection organization. This material should be shipped off-site as soon as possible. (NOTE: During the week of December 10, 2007, the Assessment Team Leader was informed by DBNPS management that the vast majority of the stored low-level Radwaste was being shipped off-site prior to the start of RFO 15 in late December 2007.)
2. The PSA/Risk Engineer position in Work Management should be filled as soon as possible. While this important position has been recognized as a vital hire need for some time, DBNPS has been unsuccessful in recruiting and/or assigning a permanent, full-time qualified engineer to serve in this capacity.

### Assessment Team Observations & Suggestions

Staffing/Workload/Work Management issues are a common area of concern throughout the commercial nuclear power plant industry. Actions taken by DBNPS management over the past year have served to reduce workforce concerns in these areas; however, there are continuing issues in several organizations and there are continuing challenges ahead due to attrition and aging workforce/retirement issues. A proactive approach to staffing, training and qualification of newly assigned personnel and in continuing to further improve work management and prioritization will continue to be necessary.

### Assessment Team Conclusion

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the "Nuclear Safety as Top Priority" cultural component is Effective, with room for further improvement.

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### IV.B.3 Operational Nuclear Safety

#### INTRODUCTION

This NS VB&P cultural component is an integrated measure of a spectrum of attributes related to attitudes, behaviors, practices and actions that support Nuclear Safety and safe plant operations.

#### NUMERICAL SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Operational Nuclear Safety

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Operational Nuclear Safety” is 4.21, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.7% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 26 of the individual “Operational Nuclear Safety” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. Four attributes showed notable improvement ( $\geq 5\%$ ):

- Strict adherence with procedural requirements as a means of assuring Nuclear Safety. (4.42,  $\uparrow 6\%$ , 99.0% positive response)
- Effective implementation of measures and controls to ensure the radiological safety of the workforce. (4.33,  $\uparrow 6\%$ , 99.0% positive response)
- Limiting and controlling the use of temporary modifications and compensatory measures that rely on manual actions. (3.97,  $\uparrow 5\%$ , 95.8% positive response)
- Providing appropriate levels of oversight and control of contractor work activities to ensure that Nuclear Safety is maintained. (3.59,  $\uparrow 9.9\%$ , 88.4% positive response)

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all of the 26 individual “Operational Nuclear Safety” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Individuals accept personal responsibility for identifying and pursuing the resolution of potential Nuclear Safety issues or concerns. (4.49,  $\uparrow 3\%$ , 98.7% positive response)
- Operations, maintenance and modifications are conducted in accordance with the licensing and design bases. (4.36,  $\uparrow 1\%$ , 99.5% positive response)
- Decisions and actions taken to address issues affecting Nuclear Safety and safe plant operations are appropriately conservative. (4.19,  $\uparrow 1\%$ , 98.2% positive response)
- Healthy accountability is exercised for adherence to standards and expectations for Nuclear Safety performance. (4.17,  $\uparrow 0.4\%$ , 95.6% positive response)
- We proceed with caution and conservatism in the face of uncertainty or unexpected conditions. (4.15,  $\uparrow 1\%$ , 97.6% positive response)



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- Equipment important to Nuclear Safety and safe plant operations is rigorously maintained. (4.14, ↑2%, 96.3% positive response)
- Operational risks associated with planned work activities are anticipated and appropriate precautions are taken. (4.12, ↓0.4%, 98.3% positive response)

### Lowest Rated Cultural Attribute

The lowest rated “Operational Nuclear Safety” cultural attribute was “Providing appropriate levels of oversight and control of contractor work activities to ensure that Nuclear Safety is maintained”. (3.59, ↑9.9%, 88.4% positive response)

Based on comparing the DBNPS Site Composite survey rating of this cultural attribute against commercial nuclear power plant industry norms, this cultural attribute is perceived by the workforce to be an “Area of Strength”. It is noteworthy that the rating of this cultural attribute, which was identified as an “Area for Improvement” in the 2006 Independent Assessment, improved very notably.

### SURVEY WRITE-IN COMMENTS

There were 19 survey write in comments related to the “Operational Nuclear Safety” cultural component. Of these, 4 were positive in nature, 15 were negative in nature, and 2 were neutral.

- The positive comments indicated that there is good response to equipment and Nuclear Safety issues.
- The negative comments identified a number of practices that were of concern, such as not following policies and procedures (2 comments), lack of timely procedure changes (2 comments), not involving the most knowledgeable people in decisions (2 comments), and not conforming to Fitness for Duty requirements (2 comments).
- The Nuclear Oversight Organization identified one concern with degrading material conditions attributed to preventive maintenance practices.

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

Personnel interviews generally validated the survey results in that personnel interviewed indicated that:

- DBNPS is operated in accordance with licensing and design requirements.
- DBNPS decision-making is appropriately conservative.
- Individuals have received adequate training to perform their daily activities.
- Individuals could follow procedures or get their issue with the procedure resolved.

Behavioral observations of maintenance work activities included observation of a situation where the assignment of PRA risk for under voltage relay work was not clearly identified on the work package. The craft personnel noticed this omission and informed supervision, who promptly obtained information to resolve the situation.

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Personnel interviews indicated that DBNPS has established a comprehensive plan designed to significantly improve human performance by contractors during RFO 15. This is discussed in more detail in Section VII of this Report.

Personnel interviews indicated that the RFO 15 outage scope includes actions to address all significant System Health issues and operator workarounds/burdens.

Personnel interviews and documentation reviews indicated that DBNPS management acknowledges that the current backlog of necessary procedure changes exceeds stated goals, including goals for procedure changes required by Condition Reports. The recent and current priority has been on upgrading procedures necessary to support the conduct of RFO 15 (particularly test procedures). Management indicates that it plans to engage Shift Managers and the operating crews in helping to work off the remaining procedural change backlog after the completion of RFO 15 and that this procedure backlog reduction activity will be high priority.

Personnel interviews and documentation reviews indicated that DBNPS had recently received feedback from WANO that the quality of their simulator training critiques required improvement. Personnel interviews indicate that this issue has been addressed.

Personnel interviews indicated that increased emphasis has been placed on primary system chemistry control.

In its report of the Independent Assessment of Operations Performance at DBNPS (COIA-CAP-2007 dated August 10, 2007), the Independent Assessment Team provided the following conclusion and supporting information:

*'The team concluded, based on observations of control room and simulator performance, interviews, observations of classroom training, Quality Assurance Assessments, and Condition Report evaluations, that the plant is being operated safely, both in the control room and in the plant. Personnel practice and display a questioning and safety conscious attitude. The team noted an improvement in the already good self and peer checking by those observed during the assessment. Operations personnel are knowledgeable of the plant and plant conditions, including workarounds, deficiency tags, etc. All control room operations observed were conducted in accordance with procedures, i.e., Conduct of Operations. Control room demeanor continues to improve over that which was observed a couple of years ago, in that, professionalism was displayed in every instance in which the team observed control room and simulator operations. Similarities in crew and individual performance were noted in both the simulator and the control room. In addition, based on interviews, Operations personnel seem to have a much better attitude and morale during this assessment than in any of those previous. Work week schedule assignments were considered reasonable with minor exceptions noted.'*

*"About 80 percent of those interviewed thought that training continues to be high quality in both the curriculum content and presentation. Much of*

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*this was attributed to the rotation of Operations staff to the training center and implementation of Just-In-Time-Training (JITT). Interviewees stated that initiation of JITT was very helpful in their ability to successfully perform infrequently performed maneuvers, i.e., startup, shutdowns and special operations. Also, the equipment operators were very receptive to their inclusion into the JITT efforts. They felt that this training enhanced their performance and effectiveness in the field. Training continues to be an Area of Strength.”*

The 2007 Operations Performance Independent Assessment Team identified several Areas in Need of Attention, including that there is a need for continuing effort to reduce the number of configuration control events. (The Operation Performance Independent Assessment Team noted that all levels of the on-shift personnel were aware of the need to be alert to address configuration control issues.)

In its report of the Independent Assessment of Engineering Programs Effectiveness at DBNPS (COIA-ENG-2007 dated October 7, 2007), the Independent Assessment Team noted that:

*“Maintenance Rule systems overall health was reported to be Green for the current quarter (2Q 2007), improved from overall health White at the time of the 2006 assessment. This was attributable to completion of significant system health improvement related work as well as a change in the calculation of individual and overall system health. At the time of the 2006 assessment, eight systems were designated as in red health condition. At the time of the 2007 assessment, two systems remained in the red system health designation status. A review of system health information System health recovery plans for the two remaining red systems (Plant Computer and 480 VAC) were reviewed and discussed with the responsible system engineers.”*

*“Health recovery plans were generally found to be suitable vehicles for identifying and guiding the work necessary to improve system performance and health to higher levels. The plans now often address activities necessary to progress to excellent (green) system health, and now often address threats to improving or continuing good system performance. Completion of work identified in system health recovery plans since the 2006 assessment was markedly greater than in the period prior to the 2005 assessment.”*

*“Significant progress has been made since the last assessment in executing maintenance work orders and plant modifications to resolve longstanding equipment reliability and condition issues, and further, significant additional work order and modification executions are scheduled during the remainder of the current operating cycle and during 15RFO. Reviews indicate a high level of readiness of these work items, providing confidence that the problem resolutions and plant health improvements they represent will occur as planned and scheduled.”*

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*“The PM Strategy work underway at DB at present is recognized to be somewhat behind many in the industry. Engineering analysis of critical and non-critical components is about 30% complete. The results of that analysis and the thousands of PM revision requests it will generate, and the thousands of work order and schedule changes and field task executions that will be required to give full effect to station equipment will be a formidable burden for the station’s work management and field forces.”*

### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

Two Opportunities for Improvement have been identified:

1. Recurring operational problems with the Integrated Control System continue to be a source of frustration to the operations organization. These problems should be addressed as soon as possible.
2. The backlog of procedural changes in Operations continues to be a source of frustration, and the current resource allocation for this purpose does not appear to be sufficient. This matter should be resolved in a timely manner.

#### Assessment Team Conclusions

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Operational Nuclear Safety” cultural component is Highly Effective.

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### IV.B.4 Identification of Potential Nuclear Safety Issues or Concerns

#### INTRODUCTION

This NS VB&P cultural component is an integrated measure of attributes related to attitudes, behaviors and practices that support the identification of potential Nuclear Safety issues or concerns.

Attributes with distinct elements of encouragement, receptivity, appreciation and support of raising potential Nuclear Safety issues/concerns are included in the evaluation of the Safety Conscious Work Environment (refer to Section IV.C).

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Identification of Potential Nuclear Safety Issues or Concerns

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Identification of Potential Nuclear Safety Issues or Concerns” is 4.20, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 4.2% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 9 of the individual “Identification of Potential Nuclear Safety Issues or Concerns” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. Four attributes showed notable improvement ( $\geq 5\%$ ):

- Willingness to identify or pursue potential NS issues/concerns without worrying about increasing workload for self or others (4.16,  $\uparrow 9\%$ , 94.5% positive response)
- Willingness to identify or pursue potential NS issues/concerns without worrying about adversely affecting schedules/meeting goals (4.19,  $\uparrow 8\%$ , 88.4% positive response)
- Ability to identify potential NS issues/concerns is not adversely affected by workload (3.89,  $\uparrow 7\%$ , 91.3% positive response)
- Confidence that adverse trends will be identified through the CAP (4.05,  $\uparrow 5\%$ , 96.8% positive response)

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 9 of the individual “Identification of Potential Nuclear Safety Issues or Concerns” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Lack of prior responsiveness by supervision is NOT having an adverse impact on willingness to identify and pursue resolution of potential Nuclear Safety issues/concerns. (4.31,  $\uparrow 3\%$ , 96.7% positive response)
- The overall environment at DBNPS as it affects willingness to report a potential Nuclear Safety issues/concerns. (4.27,  $\uparrow 2.5\%$ , 97.2% positive response)

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- Lack of prior responsiveness by management is NOT having an adverse impact on willingness to identify and pursue resolution of potential Nuclear Safety issues/concerns. (4.24, ↑4%, 95.2% positive response)

### Lowest Rated Cultural Attribute

The lowest rated “Identification of Potential Nuclear Safety Issues or Concern” cultural attribute was “Ability to identify potential NS issues/concerns is not adversely affected by workload.” (3.89, ↑7%, 91.3% positive response)

Based on comparing the DBNPS Site Composite survey rating of this cultural attribute against commercial nuclear power plant industry norms, this cultural attribute is perceived by the workforce to be an “Area of Strength”. It is noteworthy that the rating of this cultural attribute, which was identified as an “Area in Need of Attention” in the 2006 Independent Assessment, improved notably.

### SURVEY WRITE-IN COMMENTS

There were relatively few (14) survey write in comments related to the “Identification of Potential Nuclear Safety Issues or Concern” cultural component. Of these, 4 were positive in nature and 10 were negative in nature.

- The positive comments focused on the willingness of individuals to identify safety concerns using the condition report process and how this is valued by the organization.
- The negative comments indicated that:
  - There are some concerns about too many issues with insignificant impact on Nuclear Safety in the CAP that are taking resources and focus away from addressing the truly significant issues. (3 comments)
  - There is some reluctance to identify issues based on a belief that they will be assigned to the originator to resolve and result in additional workload. (3 comments)

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

Personnel interviews validated the survey results. All personnel interviewed indicated that:

- They knew how to use the corrective action program.
- They would be willing to report a nuclear safety concern.
- They did not know of any conditions under which they would be hesitant to raise a clear nuclear safety issue or concern.

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The Report of the Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2007) included the following conclusion and supporting information:

*“The Identification, Classification, and Categorization of Conditions Adverse to Quality were rated as Highly Effective. Interviews with Davis-Besse staff members at every level reveal strong commitment to the CAP program. The Condition Reports (CRs) are clearly written and their classification and categorization are accurate. The initial steps of writing timely, accurate CRs are a program Strength; as is the reporting of operational experience to the industry.”*

### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

None identified.

#### Assessment Team Conclusion

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Identification of Potential Nuclear Safety Issues or Concerns” cultural component is Highly Effective.

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### IV.B.5 Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns

#### INTRODUCTION

This NS VB&P cultural component is an integrated measure of attributes related to attitudes, behaviors and practices that support the effective resolution of potential Nuclear Safety issues or concerns.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns” is 4.04, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 6 of the individual “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. One attribute showed notable improvement ( $\geq 5\%$ ):

- Ability to effectively resolve potential NS issues/concerns is not adversely affected by workload (3.90,  $\uparrow 9\%$ , 92.2% positive response)

It is noteworthy that the rating of this cultural attribute, which was identified as an “Area in Need of Attention” in the 2006 Independent Assessment, improved very notably.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 6 of the individual “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Supervisors and managers ensure that identified Nuclear Safety issues or concerns are evaluated thoroughly. (4.31,  $\uparrow 3\%$ , 97.3% positive response)
- Supervisors ensure that Nuclear Safety issues or concerns are resolved in an effective manner. (4.18,  $\uparrow 2\%$ , 95.3% positive response)
- Confidence that the Corrective Action Program will ensure that potential Nuclear Safety problems are investigated sufficiently to define corrective actions that address the root cause. (3.95,  $\uparrow 1\%$ , 94.5% positive response)
- Confidence that the Corrective Action Program will ensure that adverse trends are appropriately addressed when identified. (3.90,  $\uparrow 2\%$ , 93.7% positive response)



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### SURVEY WRITE-IN COMMENTS

There were relatively few (14) survey write in comments related to the “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural component. Of these, 5 were positive in nature and 9 were negative in nature.

- The positive comments generally indicated that the response to and resolution of issues is excellent.
- The negative comments indicated that:
  - There are some concerns about insufficient evaluation of issues to support effective resolution. (4 comments)
  - There are a few concerns about voiding issues or not completing actions to address them. (2 comments)

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

The personnel interviews validated the survey results in that the vast majority of the DBNPS personnel interviewed felt confident that if they raised a Nuclear Safety issue, it would be resolved effectively.

All personnel interviewed knew how to use the CAP and many had used it. Most were satisfied with their experience. Exceptions were as follows:

- A few individuals commented that effectiveness of investigations, causal analysis and corrective actions can be adversely impacted by time constraints and workload.
- One individual commented that the CAP is not effective for facility-related issues (non-nuclear safety)

In the course of evaluating the effectiveness of corrective actions taken to address the NSC/SCWE Areas for Improvement identified through 2006 Independent Assessment, it was discovered that:

- All of the 2006 AFIs were evaluated through the CAP, which is consistent with DBNPS procedural/business practice requirements.
- Assignment for the evaluation and definition of corrective actions to resolve cultural issues for at least one of the 2006 localized AFIs (significant organizational outliers) was questionable, given the nature of some of the soft issues that had been identified within that organization.
- Additional pertinent information related to several of the 2006 AFIs that was provided by the 2006 Independent Assessment Team to senior DBNPS management was not provided to the individuals assigned to address the AFIs.
- None of the individuals assigned to address the AFIs contacted the 2006 Assessment Team to obtain clarification or additional insights regarding the AFIs.

As a result, opportunities were missed to address several of the 2006 AFIs in a more effective and efficient manner.

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The Report of the Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2007) included the following conclusions and supporting information:

- *“The Evaluation and Resolution of Problems was rated as Effective based on the organization demonstrating a very good understanding of evaluation methodology and assignment of Corrective Actions (CAs) which should address the problems in a manner commensurate with significance. Some attention-to-detail problems implementing CAP requirements were identified as Areas in Need of Attention.”*
- *“The Corrective Action Implementation and Effectiveness was rated as Effective. The Team determined that the responses to completed CRs provide an appropriate level of detailed discussion. The site has significantly reduced the backlog of open conditions. Site personnel exhibited a great level of institutional knowledge; however, the Team noted that reliance on the institutional knowledge may adversely impact plant performance should the personnel leave the site. The Team determined that repeat events are being captured in the Condition Report Evaluation and Status Tracking (CREST) program and no CAP weaknesses were identified in the repetitive CRs reviewed. Corrective Action Review Board (CARB) activities were thorough and critical, providing clear value added to the CAP. The Operating Experience Program was effectively implemented with improved timeliness of evaluations. When reviewing approved corrective actions due date extension requests, the Team noted that corrective actions tracking completion of work orders just referenced the work management process order priority in the corrective action extension risk evaluation (i.e., no detailed documentation of the risk). This is an Area in Need of Attention.”*
- *“The Trending Program Implementation and Effectiveness was rated as Effective. The trending program has been strengthened by management attention and staff efforts. Roll-ups of issues and trends at the unit and Fleets levels are identifying emerging trends that may not be evident at the section level. Component trending is a notable exception to the high level of performance in other trending areas; this program has not yet resulted in a completed report and so its effectiveness cannot be judged, and is an Area in Need of Attention. The IPA<sup>29</sup> process continues as a program Strength.”*

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<sup>29</sup> The abbreviation “IPA” included in this quotation from the COIA-CAP-2007 Final Report stands for “Integrated Performance Assessment”.

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### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

One Opportunity for Improvement has been identified.

1. There are opportunities to enhance the effectiveness of evaluating and addressing “soft” (cultural) issues whether self-identified or identified through external assessments such as this assessment. By their very nature, assessments of safety culture will frequently identify needs or opportunities for improvement that are “soft” in nature. That is, such needs or opportunities will involve issues related to management/supervisory skills, behaviors & practices; interpersonal relationships; personnel management; trust & mutual respect; quality of communications; and work management & prioritization – as opposed to equipment, programs and processes. Organizations, whether internal or external, who identify such “soft” needs or opportunities for improvement will frequently provide information/insights into the potential contributing factors associated with these needs or opportunities. At least some of this information may be sensitive or confidential in nature. This is particularly likely to be the case for needs or opportunities for improvement that are based on the identification of individual Functional Organizations that are considered to be “organizational outliers”.

It is suggested that DBNPS management take this into careful consideration when assigning responsibility to individuals for the evaluation and resolution of such identified needs or opportunities. Such care is particularly important when such needs or opportunities are to be addressed through the CAP.

#### Assessment Team Conclusion

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concern” cultural component is Highly Effective.

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### IV.B.6 Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns

#### INTRODUCTION

This NS VB&P cultural component is an integrated measure of attributes related to attitudes, behaviors and practices that support the timely resolution of potential Nuclear Safety issues or concerns.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns” is 4.06, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 5 of the individual “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 5 of the individual “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Supervisors and managers respond promptly to Nuclear Safety issues or concerns identified by the workforce. (4.35, ↑2%, 97.2% positive response)
- Supervisors and managers ensure that Nuclear Safety issues or concerns are resolved in a timely manner. (4.18, ↑2%, 95.3% positive response)
- Confidence that the Corrective Action Program will ensure that potential Nuclear Safety problems are appropriately prioritized. (3.98, ↑0%, 95.5% positive response)
- Confidence that the Corrective Action Program will ensure that potential Nuclear Safety problems are addressed in a timely manner. (3.83, ↑2%, 93.1% positive response)

#### SURVEY WRITE-IN COMMENTS

There were very few (3) survey write in comments related to the “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural component. Of these, all 3 were negative in nature indicating that adverse conditions were not being addressed or fixed in a timely manner.

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### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS AND DOCUMENTATION REVIEWS

All personnel interviewed knew how to use the CAP and many had used it. Most were satisfied with their experience. Exceptions were as follows:

- One individual commented that non-nuclear safety related issues can remain open for years.

The Report of the Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2007) included the following conclusion and supporting information:

*“The Davis-Besse Open Condition Report GAP Closure Plan is effectively working the aged CAP backlog and closing older issues to establish an environment where Davis-Besse is working more on resolving today’s problems today. The numerical backlog and average age of all CRs indicate significant improvement. There is good Management support in reducing the CR backlog, and overall ownership of the CAP has improved.”*

### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

None identified.

#### Assessment Team Conclusions

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural component is Highly Effective.

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### IV.B.7 Continuous Improvement of Nuclear Safety Performance

#### INTRODUCTION

This NS VB&P cultural component is an integrated measure of attributes related to attitudes, behaviors and practices that support the continuous improvement of Nuclear Safety performance. This cultural component includes attributes related to the effectiveness of the use of industry operating experience and the effectiveness of organizational self-assessments and external/independent assessments.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Continuous Improvement of Nuclear Safety Performance

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Continuous Improvement of Nuclear Safety Performance” is 4.05, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

Twelve of the 13 individual “Continuous Improvement of Nuclear Safety Performance” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. One cultural attribute showed a nominally declined rating.

Three attributes showed notable improvement ( $\geq 5\%$ ):

- Ensuring that the lessons learned from events (both industry and DBNPS) are communicated in a timely manner to affected personnel. (4.09,  $\uparrow 8\%$ , 96.7% positive response)
- Using the operating experience of others to prevent the occurrence of events at DBNPS. (3.92,  $\uparrow 6\%$ , 95.6% positive response)
- Lessons learned from events (both industry and DBNPS) are appropriately addressed through changes to programs, procedures, training and equipment. (3.93,  $\uparrow 5\%$ , 95.2% positive response)

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, 12 of the 13 individual “Continuous Improvement of Nuclear Safety Performance” cultural attributes are perceived by the workforce to be “Areas of Strength”.

Several of these are identified below:

- Complete, accurate and forthright information is provided to oversight, audit, independent assessment and regulatory organizations. (4.43,  $\downarrow 0\%$ , 97.8% positive response)
- Importance is placed on improving Nuclear Safety performance. (4.25,  $\uparrow 2\%$ , 98.0% positive response)
- The insights and perspectives provided by Nuclear Oversight organization and by other independent reviewers are valued and utilized to strengthen Nuclear Safety and to improve our performance. (4.06,  $\downarrow 1\%$ , 96.2% positive response)
- Performance indicators and metrics are used effectively to improve our Nuclear Safety performance. (3.99,  $\uparrow 4\%$ , 94.6% positive response)

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### Lowest Rated Cultural Attribute

The lowest rated “Continuous Improvement of Nuclear Safety Performance” cultural attribute was “Placing importance on actively seeking out new ideas and best practices from other nuclear plant or nuclear organizations.” (3.64, ↓3%, 86.5% positive response)

Based on comparing the DBNPS Site Composite survey rating of this cultural attribute against commercial nuclear power plant industry norms, this cultural attribute is perceived by the workforce to be an “Area of Strength”. It is noteworthy that this rating declined since the 2006 Independent Assessment.

### SURVEY WRITE-IN COMMENTS

There were very few (8) survey write in comments related to the “Continuous Improvement of Nuclear Safety Performance” cultural component. Of these, 2 were positive in nature indicating that the quarterly Safety Culture reviews were an organizational strength. The other 6 comments were negative in nature, but did not exhibit a recurring theme.

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

As noted below, personnel interviews, behavioral observations and documentation reviews generally validated the workforce survey results.

#### Self-Assessments and Independent Assessments

DBNPS performs focused self-assessments and snapshot self-assessments in accordance with NOBP-LP-2001, “FENOC Self Assessment/Benchmarking Practice.” The self-assessment schedule is derived annually, based on management’s collective judgment of priority needs. Senior DBNPS management and FENOC management participate in this process to reinforce management’s support of the self-assessment program.

“Snapshot” assessments are typically performed as effectiveness verifications, prior to significant outside inspections, or when a manager perceived the need for performance validation or adjustment. Documentation reviews indicate that more than 30 “snapshot” self-assessments will be conducted in 2007.

Integrated Section Integrated Performance Assessments (IPAs) are performed semi-annually. Reviews of the adequacy and self-criticalness of the IPAs are conducted in group sessions by the DNBPS management team. This approach is intended to ensure alignment of the management team on standards and expectations. Personnel interviews indicate that the collegial review of the IPAs by the DBNPS management team is a significant contributor to ensuring rigor and quality. Personnel interviews and documentation reviews indicated that the semi-annual Section Integrated Performance Assessments generally continue to improve in rigor and quality. A few organizations, most notably Maintenance, appear to be lagging somewhat in this regard. In the case of Maintenance this is likely to be due to the combination of two factors: (1) significant changes in supervisory assignments during the last year, and (2) significant focus on production work; i.e., meeting work schedules and reducing backlogs.

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In accordance with FENOC Fleet Business Practices, the DBNPS management team conducts quarterly and annual self-assessments of the DBNPS Nuclear Safety Culture. These self-assessments are conducted through collegial meetings of the entire DBNPS management team. The Assessment Team reviewed documentation associated with these self-assessments and for the second consecutive year observed the conduct of the annual self-assessment. As indicated below, the Assessment Team has identified an Opportunity for Improvement in this area.

Most interviewees indicated an increase in the performance of self-assessments within their Functional Organizations, and many indicated that the self-assessments are actually proving to be effective in improving performance.

Documentation reviews and personnel interviews indicate that the DBNPS Nuclear Oversight organization:

- Effectively identifies needs and opportunities for improvement to Site management and to the line organization.
- Promotes high standards and organizational self-criticalness.
- Is highly respected by Site management and the line organizations.

All interviewees indicated that their organizations value the recommendations and suggestions that they receives from the Nuclear Oversight organization.

A number of personnel from the Engineering Organizations indicated that Nuclear Oversight has not been particularly visible in their groups lately.

Documentation reviews, personnel interviews and observations of CNRB activities indicate that the DBNPS CNRB:

- Is constituted of senior independent consultants who collectively represent a wealth of experience in operational nuclear safety from both an industry and a regulatory perspective.
- Effectively identifies needs and opportunities for improvement to Site management.
- Promotes high standards and organizational self-criticalness.

In its report of the Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2007), the Independent Assessment Team included the following conclusion and supporting information:

*"The effectiveness of Internal Assessment Activities was rated as Highly Effective. The CAP Implementation Assessment Team reviewed the effectiveness of Davis-Besse's internal assessment of the CAP, including oversight audits, self-assessments, and Company Nuclear Review Board (CNRB) meetings. The Team concluded that Davis-Besse is effectively identifying and resolving CAP issues that are identified during audits and assessments. The Team considers the self-assessment process a significant contributor to achieving excellence at Davis-Besse and thus, is an area of Strength."*



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In its report of the Independent Assessment of Engineering Programs Effectiveness at DBNPS (COIA-ENG-2007 dated October 7, 2007), the Independent Assessment Team provided the following conclusion and supporting information:

*“Overall, the team rated the Engineering self-assessment process as Effective. This is based on the quality of self-assessments, interviews with engineers and managers, and the receptivity and responsiveness management exhibits toward the self assessment process.”*

*“The use of external assessment team members to gain outside perspective of engineering effectiveness was quite limited. This COIA is one of only two focused assessments scheduled for Davis-Besse engineering in 2007... Consideration should be given to establishing a long-range strategy for Engineering assessments; that is, determining the areas of focus for the future; choosing whether the assessments should be focused on compliance with current procedures and practices or the performance gaps using standards of industry excellence as a benchmark. A plan that includes a mix of IPAs, pre-inspection self assessments, snapshot and focused self assessments on selected topics to be assessed should be developed in accordance with the long range strategy. The strategy and plan should be periodically reviewed and adjusted as necessary. This review and adjustment could be done as part of the IPA process.”*

### Operating Experience (OPEX)

Personnel interviews and behavioral interviews of Maintenance field work indicated that operating experience was included in all work packages and that it was relevant to the work to be performed. One master craftsman indicated that, on occasion, the OPEX included is not perfectly aligned with the work being done, but the work group then interjects personal experience to enhance the brief. This was witnessed in an Electrical Maintenance brief for work on the under voltage relays.

Personnel interviews and documentation reviews indicate that:

- There continues to be an appropriate level of DBNPS management attention to the timeliness of OPEX evaluations, including the age of the OPEX evaluation backlog.
- Some expressed concern that the OPEX evaluations assigned for Fleet-level evaluation and response are not being processed in a sufficiently timely fashion.
- An event involving High Pressure Injection discharge piping air intrusion was found to involve an OPEX evaluation that was less than adequate, specifically the evaluation and implementation of actions to address INPO SOER 97-1.

In its report of the Independent Assessment of Operations Performance at DBNPS (COIA-CAP-2007 dated August 10, 2007), the Independent Assessment Team noted that:

*“Two of the six ODMIs<sup>30</sup> with actions outstanding had limited reference to industry operating experience. Specifically, Isophase Bus Excessive Vibration Noise did not document a review of industry operating experience relating to lamination failure mechanisms which have occurred in the power industry. Also,*

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<sup>30</sup> The term “ODMI” included in this quotation from the COIA-CAP-2007 Final Report stands for “Operational Decision Making Issue”.

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*the Cycle 15 Fuel Defect Operations ODMI did not thoroughly document review of the industry data related to the subject. This is an Area in Need of Attention.”*

### Industry Benchmarking

Personal interviews and documentation reviews indicated that:

- There has been an increase in industry benchmarking activity during the past year, but that it has been primarily focused on preparation for and conduct of RFO 15.
- It appears that the benchmarking conducted in the areas of outage planning, outage source term reduction, primary chemistry control and control of contractor activities has been very useful and is likely to reap benefits during RFO 15.
- Most of the other benchmarking activities reviewed did not appear to have resulted in similar tangible and/or high value benefits.
- The DBNPS management team has recognized the need for an integrated, strategic approach to industry benchmarking.

## ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

### Assessment Team Findings

The Assessment Team has identified three Opportunities for Improvement:

1. There are opportunities to further enhance overall organizational effectiveness through increased emphasis on industry benchmarking activities, including adoption of a strategic approach to planning and implementing such activities. The Assessment Team believes that increased emphasis is needed to successfully shift the DBNPS organization's frame of reference from one based primarily on its own experience to one based primarily on current industry standards of excellence. These needs have been recognized by the DBNPS management team and are the subject of CR 07-24794, which was written as a result of the mid-2007 application of the "Performance Improvement Model and Implementation Process (DBBP-RC-0009)". This finding has been classified as an Opportunity for Improvement as opposed to an Area in Need of Attention because it was self-identified and is currently receiving management attention.
2. There are opportunities to further enhance organizational effectiveness through improving self-assessment activities (particularly snapshot assessments and focused assessments). In this regard, there is a need for a multi-year, integrated self-assessment plan that is sufficiently flexible to address unanticipated or emerging performance assessment needs. In addition, in order to ensure that the organization keeps abreast of current industry standards of excellence, there is a need to increase the extent to which industry peers participate in DBNPS self-assessments. These needs have been recognized by the DBNPS management team and are the subject of CR 07-24791, which was written as a result of the mid-2007 application of the "Performance Improvement Model and Implementation Process (DBBP-RC-0009)". This finding is classified as an Opportunity for Improvement as opposed to an Area in Need of Attention because it was at least partially self-identified and is currently receiving management attention.
3. There are opportunities to enhance the effectiveness of DBNPS management's Annual Self-Assessment of the DBNPS NSC. In this regard:

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- The framework for this process is the “INPO Principles for a Strong NSC”. The use of currently available performance indicators and other information/ numerical data derived from the DBNPS Annual SCWE survey, Nuclear Oversight (NOS) personnel interviews and 4 C meeting surveys in this process is appropriate. However, it should be recognized that this information does not fully address the safety culture attributes embodied in each INPO Principle statement and its associated supporting attributes. To close these gaps, it is suggested that the current process be augmented by the inclusion of a set of specific questions for collegial discussion and qualitative rating.
- A significant amount of the assessment meeting time is currently expended in the “unveiling” of the information/data from the DBNPS Annual SCWE survey, NOS personnel interviews and 4 C meeting surveys. In order to ensure sufficient time for the qualitative discussions suggested above, it is further suggested that this information/data be provided sufficiently in advance of the assessment meeting for it to be evaluated by the meeting participants prior to the meeting.

### Assessment Team Observations & Suggestions

DBNPS has been and continues to be subject to significantly higher than normal external evaluation and input on standards, expectations and effectiveness of performance. This is evidenced by the four annual Independent Assessments conducted in accordance with an NRC Confirmatory Order and higher than normal attention provided by both INPO and the NRC. The DBNPS CNRB is also actively engaged in evaluating organizational performance and in providing suggestions for improvement. While all of these “external” activities and organizations are promoting higher standards of excellence, some (including FENOC senior management and this Assessment Team) feel that DBNPS is at the point of needing to transition to becoming increasingly self-reliant in its quest for continuous improvement and performance excellence. The Assessment Team believes that the “Performance Improvement Model & Implementation Process (DBBP-RC-0009)” could serve as an engine to drive this transition and encourages its continued use by the DBNPS management team.

Personnel interviews and documentation reviews indicate that many, including senior DBNPS management, feel that performance in the area of Management Field Observations continues to not fully meet expectations for self-criticalness. This has been noted as an area of weakness by several independent reviewers in the past, including the DBNPS CNRB and INPO/WANO. The need for improvement in this area has been recognized by the DBNPS management team and is the subject of CR 07-24783, which was written as a result of the mid-2007 application of the “Performance Improvement Model and Implementation Process (DBBP-RC-0009)”. The Assessment Team suggests that DBNPS management evaluate the potential contribution of “frame of reference” issues to this situation. This performance area is classified as an “Observation & Suggestion” rather than as a finding because it was at least partially self-identified and is currently receiving management attention.

### Assessment Team Conclusion

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Continuous Improvement of Nuclear Safety Performance” cultural component is Effective, but with considerable room for improvement.

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### IV.B.8 Confidence in the Corrective Action Program for Nuclear Safety Issues

#### INTRODUCTION

This NS VB&P Topical Area measures workforce confidence in the integrated effectiveness of the Corrective Action Program for the identification, prioritization, evaluation, effective resolution and timely resolution of Nuclear Safety issues.

The individual cultural attributes included in this cross-cutting Topical Area were addressed, as applicable, in the NS VB&P components of “Identification of Potential Nuclear Safety Issues or Concerns”, “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns” and “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns”. Accordingly, those individual cultural attributes are not addressed again in this section; the focus here is on the Topical Area.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Confidence in the Corrective Action Program for Nuclear Safety Issues

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Confidence in the Corrective Action Program for Nuclear Safety Issues” is 4.00, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.5% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

Ratings of “Confidence in the Corrective Action Program for Nuclear Safety Issues” varied amongst the individual DBNPS Functional Organizations”.

Low or significantly declined ratings of “Confidence in the Corrective Action Program for Nuclear Safety Issues” provided by individual DBNPS Functional Organizations may be indicators of:

- Dissatisfaction with the timely and effective resolution of issues that have been identified by those organizations.
- Workload-related issues within organizations that have a high level of participation in the evaluation and resolution of Condition Reports.

The following individual DBNPS Functional Organizations provided relatively low ratings, which while acceptable based on industry norms, are noteworthy:

- Electrical Maintenance: 3.50
- Shift Operations: 3.57
- Reactor Engineering: 3.61

Organizations providing ratings showing the most significant declining trends include:

- Electrical Maintenance: (↓13%)
- Records Management: (↓12%)

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Of the 41 individual DBNPS Functional Organizations:

- 7 provided ratings that represent significant improvement since the 2006 Assessment
- 7 provided ratings that represent notable improvement since the 2006 Assessment
- 3 provided ratings that represent nominal improvement since the 2006 Assessment
- 15 provided ratings that were relatively steady since the 2006 Assessment
- 2 provided ratings that represent nominal decline since the 2006 Assessment
- 5 provided ratings that represent notable decline since the 2006 Assessment
- 2 provided ratings that represent significant decline since the 2006 Assessment

Organizations providing ratings showing the most significant improving trends include:

- Nuclear Warehousing (↑ 31%)
- Nuclear Plant Systems Engineering (↑ 26%)
- Engineering Programs (↑ 21%)
- Nuclear ALARA/Radiation Services (↑ 21%)

### SURVEY WRITE-IN COMMENTS

The topical area of “Confidence in the Corrective Action Program for Nuclear Safety Issues” received 21 write-in comments. Of these, 2 were positive in nature and 19 were negative in nature. Themes associated with the negative write-in comments are identified in section IV.B.4, IV.B.5 and IV.B.6 above. Two comments identified the need for better integration, with appropriate distinction, of the Activity Tracking and Corrective Action Tracking systems.

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

This information is presented in Sections IV.B.4, IV.B.5 and IV.B.6 and is not repeated here.

In its report of the Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2007 dated August 9, 2007), the Independent Assessment Team concluded that Davis-Besse’s implementation of the CAP is Effective. That Assessment Team rated each of six key elements of CAP implementation/performance as follows:

- Identification, Classification, and Categorization of Conditions Adverse to Quality – Highly Effective.
- Evaluation and Resolution of Problems – Effective
- Corrective Action Implementation and Effectiveness – Effective
- Trending Program Implementation and Effectiveness – Effective
- Effect of Program Backlogs – Effective
- Effectiveness of Internal Assessment Activities – Effective
- Implementation of the Corrective Action Program by Engineering – Effective

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### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

None identified other than those identified in Sections IV.B.4, IV.B.5 and IV.B.6 of this Report.

#### Assessment Team Conclusion

Based on the integration of information identified above and the information identified in Sections IV.B.4, IV.B.5 and IV.B.6 of this Report, the Assessment Team has concluded that the “Confidence in the Corrective Action Program for Nuclear Safety Issues” cultural topical area is Highly Effective.

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### IV.B.12 Adverse Impacts of Workload on Nuclear Safety<sup>31</sup>

#### INTRODUCTION

This NS VB&P Topical Area measures potential adverse impacts of workload on ability and willingness to identify potential Nuclear Safety issues and on ability to effectively resolve identified Nuclear Safety issues. Survey ratings of “Adverse Impacts of Workload on Nuclear Safety” are primarily used to identify perceived workload-related issues in individual Functional Organizations.

The individual cultural attributes included in this cross-cutting Topical Area were addressed, as applicable, in the NS VB&P components of “Identification of Potential Nuclear Safety Issues or Concerns” and “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns”. Accordingly, those individual cultural attributes are not addressed again in this section; the focus here is on the Topical Area.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### Overall DBNPS Site Composite Ratings

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Adverse Impacts of Workload on Nuclear Safety” is 3.97, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 7.9% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

Ratings of “Adverse Impacts of Workload on Nuclear Safety” varied amongst the individual DBNPS Functional Organizations”.

Low or significantly declined ratings of “Adverse Impacts of Workload on Nuclear Safety” provided by individual DBNPS Functional Organizations may be indicators of workload or work management issues within those organizations.

The following individual DBNPS Functional Organizations provided relatively low ratings, which while acceptable based on industry norms, are noteworthy:

- Electrical Maintenance: 3.49
- Electrical/I&C Engineering: 3.59
- Operations Training: 3.59

Organizations providing ratings showing the most significant declining trends include:

- Electrical Maintenance: (↓8%)
- Work Management: (↓7%)
- Nuclear Mechanical/Structural Engineering: (↓7%)
- Records Management: (↓6%)

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<sup>31</sup> Information of adverse impacts of workload not directly related to Nuclear Safety is provided in Attachment 3 to this Report.

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Of the 41 individual DBNPS Functional Organizations:

- 20 provided ratings that represent significant improvement since the 2006 Assessment
- 8 provided ratings that represent notable improvement since the 2006 Assessment
- 3 provided ratings that represent nominal improvement since the 2006 Assessment
- 4 provided ratings that were relatively steady since the 2006 Assessment
- 2 provided ratings that represent nominal decline since the 2006 Assessment
- 4 provided ratings that represent notable decline since the 2006 Assessment
- 0 provided ratings that represent significant decline since the 2006 Assessment

Organizations providing ratings showing the most significant improving trends include:

- Nuclear Warehousing (↑ 52%)
- Nuclear Technical Training (↑ 32%)
- Rapid Response Engineering (↑ 30%)
- Nuclear Plant Systems Engineering (↑ 29%)
- I&C Maintenance (↑ 25%)
- Reactor Engineering (↑ 24%)
- Engineering Programs (↑ 24%)
- Nuclear ALARA/Radiation Services (↑ 24%)

### ADDITIONAL INSIGHTS FROM WRITE-IN COMMENTS, PERSONNEL INTERVIEWS AND DOCUMENTATION REVIEWS

This information is presented in Section IV.B.2 and is not repeated here. Additional information is provided in Section VII of this Report.

### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

None identified.

#### Assessment Team Observations & Suggestions

None identified other than those identified in Section IV.B.2 of this Report.

#### Assessment Team Conclusion

Based on the integration of information identified above and the information identified in Section IV.B.2, the Assessment Team has concluded that the “Adverse Impacts of Workload on Nuclear Safety” cultural topical area is Effective.



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### IV.C SAFETY CONSCIOUS WORK ENVIRONMENT (SCWE)

#### INTRODUCTION

##### Overall SCWE

This Key Cultural Component is a measure of the Safety Conscious Work Environment based upon the integration of the ratings of the following two major cultural sub-components:

- SCWE Indicators & Precursors of a Potentially Chilled Work Environment (I&P)
- SCWE Demonstrated Willingness to Take Appropriate Action (DWTA)

The following additional cultural components, while reported separately, are also embedded in the two major SCWE sub-components:

- SCWE Indicators & Precursors of a Potentially Chilled Work Environment
  - The influence of the general Site environment on the SCWE
  - The influence of peers on the SCWE
  - The influence of supervision on the SCWE
  - The influence of Functional Organization management on the SCWE
  - The influence of Site senior management on the SCWE
- SCWE Demonstrated Willingness to Take Appropriate Action
  - Willingness to inform supervision and/or document potential Nuclear Safety issues or concerns
  - Willingness to escalate a potential Nuclear Safety issue or concern to management

##### Other SCWE-Related Information

DBNPS processes and activities for preventing, detecting and mitigating perceptions of retaliation were included as a SCWE-related Topical Area in this assessment. This area is identified as a component of the Nuclear Safety Culture in NRC RIS 2006-13. The assessment of this SCWE-related Topical Area focused on the processes and activities of the DBNPS SCWE Review Team (SCWERT). This area was evaluated through personnel interviews and documentation reviews.

The following selected areas of leadership, management and supervisory behaviors and practices that are considered to be indirectly related to the SCWE were evaluated through the 2007 Independent Assessment survey. The results of this evaluation are presented in Attachment 4 to this Report.

- Quality of Communications with the Workforce
  - By supervision
  - By Functional Organization management
  - By Site senior management
- Environment of Trust & Mutual Respect
  - Between supervision and the workforce
  - Between Functional Organization management and the workforce
  - Between Site senior management and the workforce

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### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

#### DBNPS Site Composite Rating of the Overall Safety Conscious Work Environment

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the Overall Safety Conscious Work Environment is 4.55, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY's industry database. This rating improved by 1.6% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The overall SCWE rating is based upon the integration of numerical ratings of 33 discrete survey questions/cultural attributes. All 33 of these cultural attributes are characterized as perceived "Areas of Strength", based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

Representative "Areas of Strength" are identified in subsequent sections of this Report, which address each of the SCWE components, sub-components and sub-areas individually.

All 33 of the individual "Safety Conscious Work Environment" cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment:

- 1 showed significant improvement since the 2006 Assessment
- 3 showed notable improvement since the 2006 Assessment
- 8 showed nominal improvement since the 2006 Assessment
- 21 were relatively steady since the 2006 Assessment

### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided relatively low ratings, which while acceptable based on industry norms, are noteworthy:

- Site Protection/Security: 4.23
- Electrical Maintenance: 4.24

Organizations providing ratings showing the most significant declining trends include:

- Records Management: (↓5%)

Organizations providing ratings showing the most significant improving trends include:

- Nuclear Plant Systems Engineering (↑ 22%)
- Nuclear Warehousing (↑ 16%)
- Engineering Programs (↑ 13%)
- Operations Training (↑ 10%)

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### SURVEY WRITE-IN COMMENTS

There were 17 survey write in comments related to the “Safety Conscious Work Environment”. Of these, 6 were positive in nature, and 11 were negative in nature.

- The positive comments indicated that:
  - The workforce is willing to raise issues. (4 comments)
  - There is little or no evidence of retaliation for raising issues. (1 comment)
  - The SCWERT is considered to be an effective. (1 comment)
- The negative comments indicated that:
  - Some individuals have received negative reactions for raising concerns. (4 comments)
  - A few individuals in the Plant Engineering organizations perceive that management is giving negative performance reviews to individuals who have raised concerns. (2 comments)
  - Perception that one individual was retaliated against for raising a concern. (1 comment)

### ADDITIONAL INFORMATION FROM PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS

Personnel interviews validated the survey results in that all personnel interviewed indicated that:

- They had not experienced a negative reaction from peers, supervision, management or senior management for having raised a nuclear safety concern in recent times.
- They did not know of anyone else receiving a negative reaction from peers, supervision, management or senior management for having raised a nuclear safety concern in recent times.
- With the exception of a few individuals in the Site Protection/Security organization, personnel at DBNPS are willing to self-report their own mistakes.

Behavioral Observations validated the survey results in that a receptive and open environment was demonstrated during all activities observed by the Assessment Team.

### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

Based on a detailed analysis of key SCWE-related cultural components and attributes, the Site Protection/Security organization was identified as the most significant DBNPS organizational outlier with respect to the SCWE. Personnel interviews indicate that the underlying reasons for the lower ratings of certain SCWE cultural attributes by personnel within this organization are rooted in the GCWE/LMS. The Site Protection/Security organization has been identified as a localized Area in Need of Attention (ANA-N-4 and ANA-G-2).

#### Assessment Team Conclusions

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Overall Safety Conscious Work Environment” cultural component is Highly Effective.

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### IV.C.1 SCWE Indicators & Precursors of a Potentially Chilled Work Environment

#### INTRODUCTION

This major SCWE cultural component is a measure of “Indicators & Precursors of a Potentially Chilled Work Environment”, which is based upon the integration of the ratings of the following cultural sub-components:

- The influence of the general Site environment on the SCWE
- The influence of peers on the SCWE
- The influence of supervision on the SCWE
- The influence of Functional Organization management on the SCWE
- The influence of Site senior management on the SCWE

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of SCWE Indicators & Precursors of a Potentially Chilled Work Environment

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “SCWE Indicators & Precursors of a Potentially Chilled Work Environment” is 4.48, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.1% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 30 of the individual “SCWE Indicators & Precursors of a Potentially Chilled Work Environment” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment:

- 1 showed significant improvement since the 2006 Assessment
- 3 showed notable improvement since the 2006 Assessment
- 7 showed nominal improvement since the 2006 Assessment
- 19 were relatively steady since the 2006 Assessment

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided relatively low ratings, which while acceptable based on industry norms, are noteworthy:

- Site Protection/Security: 4.11
- Electrical Maintenance: 4.11

Organizations providing ratings showing the most significant declining trends include:

- Electrical Maintenance: (↓7%)
- Records Management: (↓6%)
- Nuclear Electrical Systems Engineering: (↓6%)
- Human Resources/Communications/L&D: (↓6%)

Organizations providing ratings showing the most significant improving trends include:

- Nuclear Plant Systems Engineering (↑ 26%)
- Nuclear Warehousing (↑ 16%)
- Engineering Programs (↑ 13%)

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### IV.C.1.a Influence of the General Site Environment on the SCWE

#### INTRODUCTION

This cultural component is a measure of Indicators & Precursors of a Potentially Chilled Work Environment associated with the General Site Environment. SCWE I&P attributes that are not directly associated with the influence of peers, supervision or management are included in this component.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Influence of the General Site Environment on the SCWE

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of the General Site Environment on the SCWE” is 4.31, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3.1% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 14 of the individual “Influence of the General Site Environment on the SCWE” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. One attribute showed significant improvement ( $\geq 10\%$ ) and two attributes showed notable improvement ( $\geq 5\%$ ):

- The system of rewards and sanctions encourages behaviors consistent with a strong NSC. (3.68,  $\uparrow 31\%$ , 84.5% positive response)
- Willingness to self-identify errors. (4.44,  $\uparrow 7\%$ , 98.3% positive response)
- Willingness to identify or pursue potential NS issues/concerns without worrying about being viewed as uncooperative, a complainer or as someone who is resistant to change. (4.11,  $\uparrow 6\%$ , 92.2% positive response)

It is noteworthy that the cultural attribute that showed the most improvement had been identified as an “Area for Improvement” in the 2006 Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all fourteen of the individual “Influence of the General Site Environment on the SCWE” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- The 2007 Independent Assessment survey included a “Yes/No” question related to an individual’s knowledge of someone other than his/her self having received a negative reaction from supervision or management for raising an issue or concern related to Nuclear Safety during the past year. The percentage of survey respondents who provided a “Yes” response to this survey question was 7.0%. This is the lowest % in SYNERGY’s industry database. The industry mean is 17.5%.
- Individuals have received adequate training on the FENOC Safety Conscious Work Environment Policy. (4.55,  $\uparrow 0\%$ , 99.5% positive response)
- Individuals have received adequate training on how to write a Condition Report and get it into the system. (4.47,  $\downarrow 0\%$ , 96.2% positive response)

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- Raising and pursuing resolution of potential Nuclear Safety issues or concerns is favorably received at DBNPS. (4.28, ↑1.2%, 97.8% positive response)
- The overall DBNPS Site environment as it affects individual willingness and likelihood of reporting potential Nuclear Safety issues. (4.27, ↑2.5%, 97.2% positive response)
- Retaliation against individuals for raising or pursuing potential Nuclear Safety issues or concerns is not tolerated at our Site. (4.18, ↑0%, 94.7% positive response)

### IV.C.1.b Influence of Peers on the SCWE

#### INTRODUCTION

This cultural component is a measure of Indicators & Precursors of a Potentially Chilled Work Environment that are associated with the influence of peers.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Influence of Peers on the SCWE

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Peers on the SCWE” is 4.66, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.1% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

Both of the two individual “Influence of Peers on the SCWE” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, both of the individual “Influence of Peers on the SCWE” cultural attributes are perceived by the workforce to be “Areas of Strength”.

- Willingness to raise or pursue a potential Nuclear Safety issue or concern without worrying about receiving a negative reaction from peers. (4.38, ↑2.8%, 97.2% positive response)
- The 2007 Independent Assessment survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from his/her peers for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 1.3%. This is the lowest % in SYNERGY’s industry database. The industry mean is 4.8%.

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### IV.C.1.c Influence of Supervision on the SCWE

#### INTRODUCTION

This cultural component is a measure of Indicators & Precursors of a Potentially Chilled Work Environment that are associated with the influence of supervision.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Influence of Supervision on the SCWE

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Supervision on the SCWE” is 4.56, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has remained steady since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 5 of the individual “Influence of Supervision on the SCWE” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 5 of the individual “Influence of Supervision on the SCWE” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Supervisors and managers genuinely encourage individuals to identify and pursue resolution of potential Nuclear Safety issues or concerns. (4.38, ↑0.5%, 97.5% positive response)
- Raising and pursuing resolution of potential Nuclear Safety issues or concerns is favorably received by my immediate supervisor. (4.34, ↓2.5%, 97.2% positive response)
- Willingness to raise or pursue a potential Nuclear Safety issue or concern without worrying about receiving a negative reaction from my supervision. (4.33, ↑3.6%, 96.0% positive response)
- The 2007 Independent Assessment survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from his/her supervisor for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 3.2%. This is the third lowest % in SYNERGY’s industry database. The industry mean is 6.1%.

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### IV.C.1.d Influence of Functional Organization Management on the SCWE

#### INTRODUCTION

This cultural component is a measure of Indicators & Precursors of a Potentially Chilled Work Environment that are associated with the influence of Functional Organization management.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Influence of Functional Organization Management on the SCWE

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Functional Organization Management on the SCWE” is 4.48, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has improved by 0.9% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 5 of the individual “Influence of Functional Organization Management on the SCWE” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 5 of the individual “Influence of Functional Organization Management on the SCWE” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Supervisors and managers genuinely encourage individuals to identify and pursue resolution of potential Nuclear Safety issues or concerns. (4.38, ↑0.5%, 97.5% positive response)
- There is an open door to pursue resolution of potential Nuclear Safety issues or concerns through the management chain, if necessary. (4.26, ↑1.2%, 95.9% positive response)
- Raising and pursuing resolution of potential Nuclear Safety issues or concerns is favorably received by management in my Functional Organization. (4.22, ↓1.2%, 95.4% positive response)
- Supervisors and managers in my Functional Organization are supportive of individuals who feel the need to pursue resolution of potential Nuclear Safety issues or concerns by taking the matter further up the management chain. (4.20, 96.9% positive response)
- The 2007 Independent Assessment survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from his/her management for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 3.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 7.8%.



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### IV.C.1.e Influence of Site Senior Management on the SCWE

#### INTRODUCTION

This cultural component is a measure of Indicators & Precursors of a Potentially Chilled Work Environment that are associated with the influence Site senior management.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Influence of Site Senior Management on the SCWE

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Site Senior Management on the SCWE” is 4.52, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has improved by 2.5% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 4 of the individual “Influence of Site Senior Management on the SCWE” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. One attribute showed notable improvement ( $\geq 5\%$ ):

- Willingness to identify or pursue potential NS issues/concerns without worrying about receiving a negative reaction from Site senior management. (4.27,  $\uparrow 6\%$ , 94.8% positive response)

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 4 of the individual “Influence of Site Senior Management on the SCWE” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Raising and pursuing resolution of potential Nuclear Safety issues or concerns is favorably received by management in my Functional Organization. (4.25,  $\uparrow 1.4\%$ , 96.9% positive response)
- Supervisors and managers in my Functional Organization are supportive of individuals who feel the need to pursue resolution of potential Nuclear Safety issues or concerns by taking the matter further up the management chain. (4.20, 96.9% positive response)
- The 2007 Independent Assessment survey included a “Yes/No” question related to an individual having personally experienced, during the past year, a negative reaction from senior site management for having raised or pursued an issue or concern related to Nuclear Safety. The percentage of survey respondents who provided a “Yes” response to this survey question was 1.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 5.8%.

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### IV.C.2 SCWE Demonstrated Willingness to Take Appropriate Action

#### INTRODUCTION

This major SCWE cultural component is a measure of willingness to take appropriate action based upon the integration of the ratings of the following cultural sub-components:

- Willingness to inform supervision and/or document potential Nuclear Safety issues or concerns
- Willingness to escalate a potential Nuclear Safety issue or concern to management

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of SCWE Demonstrated Willingness to Take Appropriate Action

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “SCWE Demonstrated Willingness to Take Appropriate Action” is 4.63, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2.2% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 3 of the individual “SCWE Demonstrated Willingness to Take Appropriate Action” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment:

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided relatively low ratings, which while acceptable based on industry norms, are noteworthy:

- Site Protection/Security: 4.34
- Records Management: 4.34

Organizations providing ratings showing the most significant declining trends include:

- FIN Maintenance: (↓7%)

Organizations providing ratings showing the most significant improving trends include:

- Nuclear Warehousing (↑ 20%)
- Nuclear Plant Systems Engineering (↑ 18%)
- Engineering Programs (↑ 13%)
- Operations Training (↑ 12%)

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### IV.C.2.a DWTA Willingness to Inform

#### INTRODUCTION

This cultural component is a measure of individual willingness to inform supervision or to document a potential Nuclear Safety issue or concern.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of DWTA Willingness to Inform

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “DWTA Willingness to Inform” is 4.71, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.9% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

99.7% of DBNPS personnel indicated that, if they identified a potential Nuclear Safety issue or concern, they would inform their supervisor and/or document the issue or concern by initiating a Condition Report.

### IV.C.2.b DWTA Willingness to Escalate

#### INTRODUCTION

This cultural component is a measure of individual willingness to escalate a potential Nuclear Safety issue or concern further up the management chain.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of DWTA Willingness to Escalate

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “DWTA Willingness to Escalate” is 4.39, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2.8% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

96.2% of DBNPS personnel indicated that, if they identified a potential Nuclear Safety issue or concern and were not satisfied with their supervisor’s response, they would take the matter further up the management chain.

98.0% of DBNPS personnel indicated that, if they identified a degraded condition that could adversely affect Nuclear Safety or safe plant operations and were not satisfied that the condition was being corrected in a timely or effective manner, that they would take the matter further up the management chain.

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### IV.C.3: Preventing, Detecting and Mitigating Perceptions of Retaliation (SCWE PDM)

#### INTRODUCTION

The assessment of this SCWE-related Topical Area focused primarily on the processes and activities of the DBNPS SCWE Review Team (SCWERT), which are intended to prevent, detect and mitigate perceptions of retaliation.

#### RELATED SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Ratings of SCWE PDM Attributes

The following survey questions were used to obtain the perspective of the entire Site organization on attributes associated with workforce confidence in the effectiveness of the DBNPS processes and activities for preventing, detecting and mitigating perceptions of retaliation. The DBNPS Site Composite organization ratings of these questions are presented below.

- Confidence that potential Nuclear Safety issues or concerns can be raised or pursued without fear of retaliation. (4.18, ↑0%, 94.7% positive response)
- Confidence that effective methods are in place to detect and prevent retaliation against individuals for raising or pursuing potential Nuclear Safety issues or concerns. (4.00, ↑2%, 91.8% positive response)

#### INFORMATION FROM DOCUMENTATION REVIEWS AND PERSONNEL INTERVIEWS

The charter, procedures and controls governing the activities of the SCWERT were reviewed and then discussed in detail with SCWERT members. These procedures and controls were determined to be appropriate for the review of personnel actions that could potentially involve or be perceived as retaliatory actions. It is noteworthy that the DBNPS SCWERT reviews personnel actions at a lower threshold level than is required by FENOC Fleet procedure. In 2007, the DBNPS SCWERT also included mid-year performance appraisals in its scope of review.

SCWERT members indicated that they are very thorough in conducting reviews to ensure that appropriate personnel actions were taken, including ensuring that mitigating actions were taken to prevent or minimize a potential chilling effect resulting from any personnel actions being taken. This thoroughness was demonstrated in 2007 in a case involving two specific personnel actions; the SCWERT met repeatedly until they were fully convinced that the planned personnel actions were fully justified and that appropriate actions were defined to mitigate, to the extent practicable, potential perceptions of retaliation.

#### ASSESSMENT TEAM CONCLUSION

Based on documentation reviews and personnel interviews with the members of the DBNPS SCWERT, the Assessment Team has concluded that appropriate procedures and controls are in place for the review of personnel actions that could potentially involve retaliatory actions. Based on the very high DBNPS Site Composite survey ratings of SCWE-related cultural metrics and attributes, it can be reasonably inferred that SCWERT reviews and associated actions taken, including mitigating actions to prevent or minimize a potential chilling effect, have been Highly Effective.

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### IV.D: EFFECTIVENESS OF THE EMPLOYEE CONCERNS PROGRAM (ECP)

#### INTRODUCTION

This Key Cultural component is a measure of the effectiveness of the Employee Concern Program based upon the integration of the ratings of the following cultural sub-components:

- ECP as an Acceptable Alternative Path
- Overall Confidence in the ECP
- Bases for Confidence in the ECP

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of the Effectiveness of the Employee Concerns Program

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Effectiveness of the Employee Concerns Program” is 4.00, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3.9% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The overall ECP Effectiveness rating is based upon the integration of numerical ratings of 9 discrete survey questions/cultural attributes. All 9 of these cultural attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

Representative “Areas of Strength” are identified in subsequent sections of this Report, which address each of the ECP Effectiveness sub-components individually.

All 9 of the individual “Effectiveness of the Employee Concerns Program” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment:

- 3 showed notable improvement since the 2006 Assessment
- 3 showed nominal improvement since the 2006 Assessment
- 3 were relatively steady since the 2006 Assessment

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS<sup>32</sup>

“Effectiveness of the Employee Concerns Program” ratings varied amongst the individual DBNPS Functional Organizations.

The following individual DBNPS Functional Organizations provided relatively low ratings, which while acceptable based on industry norms, are noteworthy:

- Site Protection/Security: 3.59
- Shift Operations: 3.60

Organizations providing ratings showing the most significant declining trends include:

- Records Management: (↓9%)
- Nuclear Procedures Control: (↓8%)
- Other Maintenance: (↓8%)
- Human resources/Communications/L&D: (↓8%)
- FIN Maintenance: (↓5%)

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<sup>32</sup> Additional information is provided in Section V of this Report.

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Organizations providing ratings showing the most significant improving trends include:

- Nuclear Plant Systems Engineering (↑ 48%)
- Nuclear Warehousing (↑ 36%)
- Nuclear ALARA/RP Services (↑ 20%)
- Maintenance Services (↑ 16%)
- Engineering Programs (↑ 16%)

### SURVEY WRITE-IN COMMENTS

There were relatively few (10) survey write in comments related to the “Effectiveness of the Employee Concerns Program”. Of these, all 10 were negative in nature. Four individuals from the Site Protection/Security organization provided 8 of the 10 write-in comments.

The comments identified the following concerns with the program:

- Perceptions that ECP is not objective in their evaluation of issues, assuming the issues are correct until proven otherwise. (3 comments)
- A few individuals have no faith in the program. (2 comments)
- Perceptions that ECP has poor investigative skills/behaviors. (2 comments)
- Belief that there was a breach in confidentiality. (1 comment)
- Belief that the ECP is used by individuals to attack management. (1 comment)

### ADDITIONAL INFORMATION FROM PERSONNEL INTERVIEWS AND DOCUMENTATION REVIEWS

Personnel interviews validated the survey results in that they did not identify any individuals who personally had concerns about the effectiveness of the ECP, but they did identify some individuals (particularly from within the Site Protection/Security organization) who had heard of others who did not have confidence in the ECP.

Personnel interviews and documentation reviews indicate that, subsequent to the issuance of the Final Report for the 2006 Independent Assessment of the DBNPS NSC/SCWE, the ECP Program representative met with personnel from all DBNPS organizations that had provided relatively low ratings of ECP Effectiveness in order to increase their understanding of the ECP program and processes and to address questions and concerns.

Personnel interviews indicated that some personnel in the Shift Operations organization do not understand how the ECP works.

In the course of interactions with DBNPS ECP personnel during the conduct of this assessment, the Assessment Team found ECP personnel to be:

- To be very aware of the environment within the individual DBNPS Functional Organizations
- To be very protective of the confidentiality of sources of information related to its evaluation activities.

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### ASSESSMENT TEAM FINDINGS AND CONCLUSIONS

#### Assessment Team Findings

None were identified.

#### Assessment Team Observations & Suggestions

Based on comparisons with industry norms, all individual DBNPS Functional Organizations provided high ratings of Overall ECP Effectiveness. On a relative basis, however, a few DBNPS organizations provided somewhat lower ratings. It is suggested that the ECP representatives meet with personnel within those organizations to seek to improve their awareness and understanding of the ECP.

#### Assessment Team Conclusion

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the “Effectiveness of the Employee Concerns Program” cultural component is Highly Effective.

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### IV.D.1 ECP as an Acceptable Alternative Path

#### INTRODUCTION

This cultural component measures the acceptability of the Employee Concerns Program as an alternative path for raising and pursuing the resolution of potential Nuclear Safety issues or concerns.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of ECP as an Acceptable Alternative Path

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “ECP as an Acceptable Alternative Path” is 4.07, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has improved by 4.4% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, the two individual “ECP as an Acceptable Alternative Path” cultural attributes are perceived by the workforce to be “Areas of Strength”.

The individual “ECP as an Acceptable Alternative Path” cultural attributes showed improved ratings since the 2006 Independent Assessment. One attribute showed notable improvement ( $\geq 5\%$ ) since the 2006 Assessment.

- Willingness to raise a potential Nuclear Safety issue or concern through the Employee Concerns Program if not comfortable raising it through normal processes (4.27,  $\uparrow 6\%$ , 93.0% positive response)
- The Employee Concerns Program is viewed as an acceptable, alternative path to pursue resolution of potential Nuclear Safety issues or concerns. (4.07,  $\uparrow 4\%$ , 92.5% positive response)



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### IV.D.2 Overall Confidence in the ECP

#### INTRODUCTION

This cultural component measures overall workforce confidence in the Employee Concerns Program at the present time<sup>33</sup>.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Overall Confidence in the ECP

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Overall Confidence in the ECP” is 3.81, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has improved by 5.2% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, the single “Overall Confidence in the ECP” cultural attribute is perceived by the workforce to be an “Area of Strength”.

This cultural attribute showed notable improvement ( $\geq 5\%$ ) since the 2006 Assessment.

- Current level of overall confidence in the ECP (3.81,  $\uparrow 5\%$ , 88.4% positive response)

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<sup>33</sup> The structure of this survey question, unlike most survey questions related to the Employee Concerns Program, does not specifically refer to Nuclear Safety issues or concerns. Based on SYNERGY’s experience, ratings of this survey question are typically notably lower than ratings of survey questions/attributes that are used to measure the Bases for Confidence in the Employee Concerns Program (Refer to Section IV.D.3 below).

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### IV.D. 3 Bases for Confidence in the ECP

#### INTRODUCTION

This cultural component collectively measures attributes that are associated with establishing and maintaining workforce confidence in the Employee Concerns Program.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

##### DBNPS Site Composite Rating of Bases for Confidence in the ECP

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Bases for Confidence in the ECP” is 4.09, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has improved by 2.8% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All six of the individual “Bases for Confidence in the ECP” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. One attribute showed a notably improved rating ( $\geq 5\%$ ) since the 2006 Assessment.

- Effectiveness of the ECP in evaluating and obtaining resolution of potential Nuclear Safety issues or concerns (3.98,  $\uparrow 6\%$ , 93.8% positive response)

##### Areas of Strength:

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all of the individual “Bases for Confidence in the ECP” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Belief that the Employee Concerns Program is sufficiently visible and known to the workforce.  
(4.24,  $\uparrow 2\%$ , 97.2% positive response)
- Belief that the Employee Concerns Program is staffed with competent and trustworthy personnel.  
(4.15,  $\uparrow 3\%$ , 96.0% positive response)
- Belief that the Employee Concerns Program has a high degree of management support.  
(4.06,  $\uparrow 2\%$ , 95.5% positive response)
- Confidence that the Employee Concerns Program provides and maintains confidentiality to the extent practicable.  
(4.00,  $\uparrow 4.9\%$ , 92.7% positive response)

## V. ORGANIZATIONAL ANALYSES

### V.A ORGANIZATIONAL ANALYSIS BASED ON NSC NUMERICAL RESULTS<sup>34</sup>

#### Introduction

Numerical survey ratings provided by the 41 individual Functional Organizations at the DBNPS Site were analyzed to identify Functional Organizations that:

- Provided ratings for key NSC cultural metrics<sup>35</sup> that were significantly higher than the DBNPS Site Composite Organization ratings.
- Provided ratings for key NSC cultural metrics that were notably or significantly lower than the DBNPS Site Composite Organization ratings.
- Provided NSC ratings that represent significant improvement since the 2006 Independent Assessment
- Provided NSC ratings that represent significant or notable decline since the 2006 Independent Assessment

#### Results – Relatively High and Low Numerical Ratings

##### Relatively High Numerical Ratings – Key NSC Metrics

Individual DBNPS Functional Organizations with ratings 5% higher than the DBNPS Site Composite Organization rating for one of more key NSC metrics are identified in Table 13 below.

##### Relatively Low Numerical Ratings – Key NSC Metrics

Individual DBNPS Functional Organizations with ratings 5% lower than the DBNPS Site Composite Organization rating for one or more key NSC metrics are presented in Table 14 below. Ratings that are  $\geq 10\%$  lower, which are considered to be particularly significant, are highlighted in bold.

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<sup>34</sup> Information on survey numerical ratings for all cultural metrics provided by all DBNPS organizations and demographic categories has been provided separately on CD-ROM.

<sup>35</sup> Key NSC Metrics include the Overall Ratings of the NSC, NS VB&P, SCWE and ECP.

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**TABLE 13  
RELATIVELY HIGH RATINGS OF KEY NSC METRICS**

ORGANIZATION	2007 RATING			
	NSC	NS VB&P	SCWE	ECP
Business Services	4.70	4.63	4.90	4.58
Configuration Control	4.68	4.62	4.87	4.54
I&C Maintenance	4.65	4.60	4.83	4.40
Projects	4.60	4.51	4.87	4.63
Training Services	4.53	4.45	4.79	4.47
Nuclear Supply Systems Engineering	4.53	4.45	4.81	4.24
Regulatory Compliance	4.53	4.41	4.82	4.72
Nuclear Oversight/QC/ECP	4.50	4.39	4.84	4.46
Outage Management	4.47	4.38		4.73
Nuclear Technical Training	4.46	4.34		4.50
Nuclear ALARA/RP Services	4.44	4.37		4.33
Rapid Response Engineering	4.43	4.33		4.25
Davis Besse Supply Chain				4.48
Electrical/I&C Engineering				4.37
Operations Services				4.36
Emergency Response				4.28
Engineering Analysis				4.26
Maintenance Services		4.36		4.20
Nuclear Mechanical/Structural Eng			4.83	
Document Control		4.35		

**TABLE 14  
RELATIVELY LOW RATINGS OF KEY NSC METRICS**

ORGANIZATION	2007 RATING			
	NSC	NS VB&P	SCWE	ECP
Electrical Maintenance	3.82	3.68	4.24	3.65
Site Protection/Security	3.93	3.85	4.23	3.51
Work Management	3.95	3.82		
Shift Operations	3.98	3.84		<b>3.60</b>
Other Maintenance Organization	3.99	3.88		3.63
Reactor Engineering	3.99	3.77		3.77
FIN Maintenance				3.73
Mechanical Maintenance				3.64
Work Planning				3.70
Chemistry				3.77
Nuclear Procedures Control				3.66
Document Control				3.72

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### Results – 2006-2007 Numerical Rating Trends

#### Rating Trend Patterns by Functional Organizations

Table 15 provides summary information on 2006-2007 numerical rating trend patterns exhibited for key NSC Metrics by the 41 individual DBNPS Functional Organizations.

**TABLE 15  
RATING TREND PATTERNS FOR KEY NSC METRICS**

2006-2007 TREND CATEGORY	NUMBER OF ORGANIZATIONS			
	NSC	NS VB&P	SCWE	ECP
Significant Improvement ( $\geq 10\%$ )	10	11	4	13
Notable Improvement ( $\geq 5\%$ )	3	2	8	6
Nominal Improvement ( $\geq 2.5\%$ )	8	8	5	6
Relatively Steady	15	14	17	7
Nominal Decline ( $\geq 2.5\%$ )	2	3	5	3
Notable Decline ( $\geq 5\%$ )	3	3	2	5
Significant Decline ( $\geq 10\%$ )	0	0	0	1
<b>Total</b>	<b>41</b>	<b>41</b>	<b>41</b>	<b>41</b>

Based on the information provided in Table 15, of the 41 individual DBNPS Functional Organizations:

- For the Overall NSC Rating:
  - 51% showed improving trends
  - 37% remained relatively steady
  - 12% showed declining trends
- For the Overall NS VB&P Rating:
  - 52% showed improving trends
  - 34% remained relatively steady
  - 14% showed declining trends
- For the Overall SCWE Rating:
  - 42% showed improving trends
  - 41% remained relatively steady
  - 17% showed declining trends
- For the Overall ECP Rating:
  - 62% showed improving trends
  - 17% remained relatively steady
  - 21% showed declining trends

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### Organizations with Significantly Improved Ratings – Key NSC Metrics

Individual DBNPS Functional Organizations with ratings of key NSC metrics that represent significant improvement ( $\geq 10\%$ ) since the 2006 Independent Assessment of the NSC/SCWE are presented in Table 16 below.

**TABLE 16  
SIGNIFICANTLY IMPROVED RATING TRENDS FOR KEY NSC METRICS**

ORGANIZATION	2006-2007 TRENDS			
	NSC	NS VB&P	SCWE	ECP
Nuclear Plant Systems Engineering	27.6%	28.8%	21.8%	48.5%
Nuclear Warehouse	27.3%	30.7%	18.1%	36.5%
Engineering Programs	18.1%	20.3%	13.2%	15.8%
Nuclear ALARA/RP Services	11.5%	13.1%		20.0%
Chemistry	11.2%	12.7%		12.1%
Nuclear Technical Training	11.1%	12.8%		15.9%
Rapid Response Engineering	10.7%	11.7%		10.9%
I&C Maintenance	10.7%			
Operations Training	10.7%	11.6%	10.0%	
Maintenance Services	10.4%	11.0%		16.2%
I&C Maintenance	12.1%			13.5%
Training Services	10.7%			
Reactor Engineering				14.1%
Nuclear Radiation Protection				11.2%
Operations Services				10.9%
Regulatory Compliance				10.1%

### Organizations with Significantly Declined Ratings – Key NSC Metrics

Individual DBNPS Functional Organizations with ratings of key NSC metrics that represent significant ( $\geq 10\%$ ) or notable ( $\geq 5\%$ ) decline since the 2006 Independent Assessment of the NSC/SCWE are presented in Table 17 below.

**TABLE 17  
NOTABLY DECLINED RATING TRENDS FOR KEY NSC METRICS**

ORGANIZATION	2006-2007 TRENDS			
	NSC	NS VB&P	SCWE	ECP
Electrical Maintenance	-6.9%	-8.2%		
Records Management	-6.6%	-6.9%		-9.6%
Work Management	-6.1%	-7.0%		
Records Management			-5.0%	
Nuclear Procedures Control				-8.5%
Other Maintenance Organization				-8.0%
Human Resources/Comm./L&D				-8.0%
FIN Maintenance				-5.3%

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### V.B ORGANIZATIONAL ANALYSIS BASED ON GCWE & LMS NUMERICAL RESULTS<sup>36</sup>

#### Introduction

Numerical survey ratings provided by the 41 individual Functional Organizations at the DBNPS Site were analyzed to identify Functional Organizations that:

- Provided ratings for key GCWE/LMS cultural metrics<sup>37</sup> that were significantly higher than the DBNPS Site Composite Organization ratings.
- Provided ratings for key GCWE/LMS cultural metrics that were notably or significantly lower than the DBNPS Site Composite Organization ratings.
- Provided GCWE/LMS ratings that represent significant improvement since the 2006 Independent Assessment.
- Provided GCWE/LMS ratings that represent significant or notable decline since the 2006 Independent Assessment.

#### Results – Relatively High and Low Numerical Ratings

##### Organizations Providing Relatively High Numerical Ratings – Key GCWE/LMS Metrics

Individual DBNPS Functional Organizations with ratings 5% higher than the DBNPS Site Composite Organization ratings for one or more key GCWE/LMS metrics are presented in Table 18 below.

##### Organizations Providing Relatively Low Numerical Ratings – Key GCWE/LMS Metrics

Individual DBNPS Functional Organizations with ratings 5% lower than the DBNPS Site Composite Organization ratings for one or more key GCWE/LMS metrics are presented in Table 19 below. Ratings that are  $\geq 10\%$  lower, which are considered to be particularly significant, are highlighted in bold.

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<sup>36</sup> Information on survey numerical ratings for all cultural metrics provided by all DBNPS organizations and demographic categories has been provided separately on CD-ROM.

<sup>37</sup> Key Metrics include the Overall Ratings of the GCWE and LMS (Quality of Communication with the Workforce and Environment of Mutual Trust & Respect).

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**TABLE 18  
RELATIVELY HIGH RATINGS OF GCWE/LMS METRICS**

<b>ORGANIZATION</b>	<b>2007 RATING</b>	
	<b>GCWE</b>	<b>LMS</b>
Business Services	4.44	4.39
Outage Management	4.37	4.27
Configuration Control	4.35	4.45
Training Services	4.35	4.44
I&C Maintenance	4.32	4.36
Nuclear Oversight/QC/ECP	4.28	4.30
Regulatory Compliance	4.25	4.40
Nuclear Supply Systems Engineering	4.16	4.14
Electrical/I&C Engineering	4.16	4.37
Projects	4.14	4.38
Nuclear Procedures Control	4.14	4.34
Document Control	4.11	4.15
Nuclear Technical Training	4.10	4.25
Rapid Response Engineering	4.07	4.22
Davis Besse Supply Chain	4.05	
Human Resources/Comm./L&D	4.05	
Operations Services	4.04	4.22
Nuclear Plant Systems Engineering	4.02	4.15
Nuclear Warehouse		4.26
Chemistry		4.25
Engineering Analysis		4.11

**TABLE 19  
RELATIVELY LOW RATINGS OF GCWE/LMS METRICS**

<b>ORGANIZATION</b>	<b>2007 RATING</b>	
	<b>GCWE</b>	<b>LMS</b>
Electrical Maintenance	<b>3.20</b>	<b>3.31</b>
Site Protection/Security	<b>3.37</b>	<b>3.40</b>
Reactor Engineering	<b>3.41</b>	<b>3.33</b>
Other Maintenance Organization	3.59	3.68
Work Planning	3.59	
Mechanical Maintenance	3.60	<b>3.48</b>
Shift Operations	3.62	3.57



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### Results – 2006-2007 Numerical Rating Trends

#### Rating Trend Patterns by Functional Organizations

Table 20 provides summary information on 2006-2007 numerical rating trend patterns exhibited for key GCWE/LMS Metrics by the 41 individual DBNPS Functional Organizations.

**TABLE 20**  
**RATING TREND PATTERNS FOR KEY GCWE/LMS METRICS**

2006-2007 TREND CATEGORY	NUMBER OF ORGANIZATIONS	
	GCWE	LMS
Significant Improvement ( $\geq 10\%$ )	15	15
Notable Improvement ( $\geq 5\%$ )	5	4
Nominal Improvement ( $\geq 2.5\%$ )	5	3
Relatively Steady	9	7
Nominal Decline ( $\geq 2.5\%$ )	4	7
Notable Decline ( $\geq 5\%$ )	2	2
Significant Decline ( $\geq 10\%$ )	1	3
<b>Total</b>	<b>41</b>	<b>41</b>

Based on the information provided in Table 20, of the 41 individual DBNPS Functional Organizations:

- For the Overall GCWE Rating:
  - 61% showed improving trends
  - 22% remained relatively steady
  - 17% showed declining trends
- For the Overall LMS Rating:
  - 54% showed improving trends
  - 17% remained relatively steady
  - 29% showed declining trends

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### Organizations with Significantly Improved Ratings – Key GCWE/LMS Metrics

Individual DBNPS Functional Organizations with ratings of key GCWE/LMS metrics that represent significant improvement ( $\geq 10\%$ ) since the 2006 Independent Assessment of the NSC/SCWE are presented in Table 21 below.

**TABLE 21  
SIGNIFICANTLY IMPROVED RATING TRENDS FOR GCWE/LMS METRICS**

ORGANIZATION	2006-2007 TREND	
	GCWE	LMS
Nuclear Warehousing	46.4%	39.9%
Nuclear Plant Systems Engineering	39.4%	44.2%
Engineering Programs	29.3%	24.5%
Document Control	21.1%	13.4%
Nuclear Technical Training	19.8%	21.0%
Chemistry	16.6%	20.3%
Maintenance Services	16.2%	15.3%
Training Services	14.8%	14.2%
Operations Training	14.6%	16.6%
Electrical/I&C Engineering	13.5%	14.2%
Nuclear ALARA/RP Services	13.0%	11.9%
Nuclear Supply Systems Engineering	12.2%	
Rapid Response Engineering	11.4%	13.4%
Reactor Engineering	11.0%	
Projects	10.9%	11.5%
Nuclear Procedures Control		16.2%
Business Services		12.8%

### Organizations with Significantly Declined Ratings – Key GCWE/LMS Metrics

Individual DBNPS Functional Organizations with ratings of key GCWE/LMS metrics that represent significant ( $\geq 10\%$ ) or notable ( $\geq 5\%$ ) decline since the 2006 Independent Assessment of the NSC/SCWE are presented in Table 22 below.

**TABLE 22  
SIGNIFICANTLY DECLINED RATING TRENDS FOR GCWE/LMS METRICS**

ORGANIZATION	2006-2007 TREND	
	GCWE	LMS
Electrical Maintenance	-11.2%	-8.4%
Site Protection/Security	-8.6%	
Records Management	-5.9%	-10.4%
Nuclear Procurement Engineering		-11.7%
Human Resources/Comm./L&D		-10.9%
Other Maintenance Organization		-7.0%

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### V.C IDENTIFICATION OF DBNPS OUTLIER ORGANIZATIONS BASED ON SURVEY NUMERICAL RATINGS<sup>38</sup>

#### Outlier Organizations Based on Industry Norms

SYNERGY has established and implemented a systematic methodology to identify any DBNPS Site individual Functional Organizations that provided ratings that failed to meet “Industry Norms of Acceptability” – as interpreted by SYNERGY.

In applying this methodology, key cultural metrics were evaluated to identify organizational strengths and weaknesses using complementary analytical techniques and specified selection criteria related to:

- Low Overall NSC, Overall SCWE or Overall GCWE mean value ratings
- High negative response percentages (i.e., negative pockets) for the Overall NSC, the Overall SCWE or the Overall GCWE
- Notable ( $\geq 5\%$ ) or Significant ( $\geq 10\%$ ) declining trends in Overall NSC, Overall SCWE or Overall GCWE ratings since the 2006 Independent NSC Assessment.

The methodology incorporates a capability to identify relative priorities for any recommended or suggested actions.

- Priority 1 = There is a potential need to take remedial action in the immediate future.
- Priority 2 = There is a potential need to take remedial action in the near-term.
- Priority 3 = Further investigation of causative factors is potentially needed in the near term.
- Priority 4 = Further investigation of causative factors is potentially needed.

Functional Organizations identified as Priority Level 1 “outliers” based on industry norms are considered to represent localized “Areas for Improvement”. Functional Organizations identified as Priority Level 2 “outliers” based on industry norms are considered to represent localized “Areas in Need of Attention”. Functional Organizations identified as Priority Level 3 or 4 “outliers” based on industry norms are considered to represent localized “Opportunities for Improvement”.

Organizations identified as “outlier organizations” based on these analyses should be evaluated further to determine the underlying reasons for the low ratings that they provided. Such evaluations should be informed by other information available to DBNPS Site management.

As shown in Table 23, application of this methodology resulted in the identification of:

- No Priority Level 1 Outlier Organizations
- One Priority Level 2 Outlier Organization
- Two Priority Level 3 Outlier Organizations
- One Priority Level 4 Outlier Organization

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<sup>38</sup> SYNERGY’s methodology and evaluation criteria for identifying organizational outliers at the DBNPS Site are proprietary to SYNERGY Consulting Services Corporation. Information on this methodology and evaluation criteria has been provided to DBNPS management on a proprietary CD-ROM.

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It is noteworthy that none of these organizations were identified as outliers due to having provided low ratings of key cultural metrics, but rather were identified due to declining trends in metric ratings since the 2006 Independent Assessment of the NSC/SCWE.

In accordance with the 2007 Independent Assessment Plan, the Assessment Team conducted personnel interviews (random selection) with personnel from the Priority Level 2 “outlier organization” to determine the underlying reasons for the lower ratings provided by that organization. The detailed results of these personnel interviews are considered to be confidential in nature. The information derived from these personnel interviews has been redacted to protect the attribution of information to specific individuals and has been provided on a “need to know” basis to DBNPS senior management.

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**TABLE 23**  
**2007 DBNPS SITE OUTLIER ORGANIZATIONS -- INDUSTRY NORMS CRITERIA**

<b>OUTLIER ORGANIZATION</b>	<b>NSC Ratings</b>	<b>NSC Pri Lev</b>	<b>SCWE Ratings</b>	<b>SCWE Pri Lev</b>	<b>GCWE Ratings</b>	<b>GCWE Pri Lev</b>	<b>INTEGRATED PRI LEVEL</b>
Electrical Maintenance <sup>39</sup>	↓ 6.9%	3			↓ 11.2%	2	2
Records Management <sup>40</sup>	↓ 6.6%	3			↓ 5.9%	3	3
Work Management <sup>41</sup>	↓ 6.1%	3					3
Site Protection/Security <sup>42</sup>					↓ 8.6%	3	4

<sup>39</sup> 65% survey participation (22 of 34)

<sup>40</sup> 100% survey participation (8 of 8)

<sup>41</sup> 100% survey participation (11 of 11)

<sup>42</sup> 45% survey participation (58 of 128)

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### Outlier Organizations Based on DBNPS Site General Performance

SYNERGY has established and implemented a systematic methodology to identify any DBNPS Site individual Functional Organizations that provided ratings of key cultural metrics that are relatively low when compared to the DBNPS Site Composite ratings.

Conduct of such an analysis is particularly useful in situations where Site-wide ratings of key cultural metrics are high and generally consistent across the individual Functional Organizations at the Site. In such circumstances, the application of “relative norms” outlier organization criteria will identify organizations that represent the best opportunities for continuous improvement in localized safety culture and performance.

The methodology is designed to identify the DBNPS Site individual Functional Organizations that are in the bottom quartile (i.e., lowest 25%) of the DBNPS Site. Since there are 41 individual Functional Organizations at the DBNPS Site, it was anticipated that approximately 10 organizations would be identified as outliers based on the use of relative norms.

In applying this methodology, key cultural metrics were evaluated to identify organizational strengths and weaknesses using complementary analytical techniques and specified selection criteria related to:

- Overall NSC, Overall SCWE and Overall GCWE mean value ratings
- Negative response percentages (i.e., negative pockets) for the Overall NSC, the Overall SCWE and the Overall GCWE

The methodology incorporates a capability to identify relative priorities for any suggested actions. The definitions of the Priority Level assignments for those Functional Organizations that, on a relative basis, fail to meet DBNPS Site general performance norms are constructed in terms of suggested actions, as follows:

- Priority 1 = Investigation of causative factors for relatively low ratings is suggested in the near term.
- Priority 2 = Investigation of causative factors for relatively low ratings is suggested in the near term.
- Priority 3 = Investigation of causative factors for relatively low ratings is suggested.
- Priority 4 = Investigation of causative factors for relatively high negative pockets is suggested.

As shown in Table 24, application of this methodology resulted in the identification of 10 individual Functional Organizations:

- Five Priority Level 1 Outlier Organizations
- Two Priority Level 2 Outlier Organizations
- Two Priority Level 3 Outlier Organizations
- One Priority Level 4 Outlier Organizations

As noted above, these organizations are localized opportunities for continuous improvement in safety culture and performance.

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**TABLE 24**  
**2007 DBNPS SITE OUTLIER ORGANIZATIONS – RELATIVE NORMS CRITERIA**  
**USING DBNPS SITE COMPOSITE NORMS**

<b>OUTLIER ORGANIZATION</b>	<b>NSC Ratings</b>	<b>NSC Outlier</b>	<b>SCWE Ratings</b>	<b>SCWE Outlier</b>	<b>GCWE Ratings</b>	<b>GCWE Outlier</b>	<b>PRIORITY LEVEL</b>
Electrical Maintenance <sup>43</sup>	3.82	Y	4.11	Y	3.20	Y	1
Site Protection/Security <sup>44</sup>	3.93	Y	4.11	Y	3.37	Y	1
Reactor Engineering <sup>45</sup>	3.99	Y			3.41	Y	1
Other Maintenance Organization <sup>46</sup>	3.99	Y			3.59	Y	1
Shift Operations <sup>47</sup>	3.98	Y			3.62	Y	1
Work Management <sup>48</sup>	3.95	Y					2
Nuclear Electrical Systems Engineering <sup>49</sup>			4.32	Y			2
Work Planning <sup>50</sup>					3.59	Y	3
Mechanical Maintenance <sup>51</sup>					3.60	Y	3
Engineering Programs <sup>52</sup>	9%neg	Y%	6%neg	Y%			4

<sup>43</sup> 65% survey participation (22 of 34)

<sup>44</sup> 45% survey participation (58 of 128)

<sup>45</sup> 100% survey participation (4 of 4)

<sup>46</sup> 39% survey participation (7 of 18); 13 contactors did not participate (predominantly janitorial and food services personnel).

<sup>47</sup> 69% survey participation (47 of 68)

<sup>48</sup> 100% survey participation (11 of 11)

<sup>49</sup> 93% survey participation (14 of 15)

<sup>50</sup> 91% survey participation (32 of 35)

<sup>51</sup> 81% survey participation (26 of 32)

<sup>52</sup> 83% survey participation (10 of 12)

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### V.D DETAILED ANALYSIS OF THE SCWE

#### Introduction

SYNERGY evaluated DBNPS Site individual Functional Organizations to identify those that provided low mean value ratings and/or high negative response rates for key SCWE-related metrics and attributes

The following SCWE-related metrics and attributes were included in this analysis:

- The Overall SCWE metric rating
- The SCWE “Indicators and Precursors of a Potentially Chilled Work Environment” sub-metric.
- The SCWE “Demonstrated Willingness to Take Appropriate Action” sub-metric.
- Ratings of willingness to identify/inform supervision of a potential nuclear safety issue or concern.
- Ratings of willingness to escalate a potential nuclear safety issue or concern to management.
- Ratings related to personal knowledge of someone who, during the past year has experienced a negative reaction from supervision or management for having identified or pursued an issue or concern related to nuclear safety.
- Ratings related to personal experience, during the past year, of having experienced a negative reaction from supervision for having identified or pursued an issue or concern related to nuclear safety.
- Ratings related to personal experience, during the past year, of having experienced a negative reaction from management for having identified or pursued an issue or concern related to nuclear safety.
- Ratings related to personal experience, during the past year, of having experienced a negative reaction from senior management for having identified or pursued an issue or concern related to nuclear safety.
- Ratings related to personal experience, during the past year, of having experienced a negative reaction from peers for having identified or pursued an issue or concern related to nuclear safety.

#### Analysis Results<sup>53</sup>

Based upon the application of this methodology and the integration of results, the most significant organizational outlier identified is:

- Site Protection/Security

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<sup>53</sup> SYNERGY’s methodology and evaluation criteria for conducting the detailed analysis of the SCWE are proprietary to SYNERGY Consulting Services Corporation. Information on this methodology and evaluation criteria has been provided to DBNPS management on a proprietary CD-ROM.



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### VI. EFFECTIVENESS OF SELF-ASSESSMENT ACTIVITIES AND SELF-IDENTIFICATION OF PERFORMANCE WEAKNESSES

#### VI.A INTRODUCTION

The effectiveness of DBNPS self-assessment activities and self-identification of performance weaknesses was assessed by evaluating information from a variety of sources, including information obtained through:

- The 2007 DBNPS Independent Assessment workforce survey (both numerical ratings and write-in comments)
- Documentation reviews
- Personnel interviews
- Behavioral Observations

The information obtained from these sources of input is provided in Section IV.B.7 of this Report (“Continuous Improvement of Nuclear Safety Performance”) and, with a few exceptions, is not repeated in this Section. Key survey numerical results related to the effectiveness of DBNPS self-assessment activities and self-identification of performance weaknesses are presented in VI.B below.

#### VI.B SURVEY NUMERICAL RESULTS

A number of survey questions obtained the perspective of the entire Site organization on the subject of organizational self-assessment and organizational self-criticalness. The DBNPS Site Composite organization ratings of these questions are presented below, along with the characterization of the ratings based on industry norms.

- Performance indicators and metrics are used effectively to improve our Nuclear Safety performance. (3.99, ↑4%, 94.6% positive response – Highly Effective)
- Effective processes are in place to self-identify organizational weaknesses related to Nuclear Safety performance. (3.87, ↑2%, 95.1% positive response – Highly Effective)
- Effectiveness in addressing and resolving self-identified areas of organizational weakness related to Nuclear Safety performance. (3.81, ↑2%, 93.3% positive response – Highly Effective)
- Line organization self-assessments are effective in improving our Nuclear Safety performance. (3.77, ↑4%, 90.2% positive response – Highly Effective)
- Self-assessment recommendations are implemented in a timely manner (consistent with their significance). (3.76, ↑3%, 92.1% positive response – Highly Effective)
- The insights and recommendations provided by our independent assessment groups (e.g., Nuclear Oversight) are valued and used because they help us to improve our Nuclear Safety performance. (4.06, ↓1%, 96.2% positive response – Highly Effective)
- Effectiveness in addressing and resolving areas of organizational weakness that have been identified by independent assessment groups. (3.86, ↑2.5%, 91.9% positive response – Highly Effective)
- Importance placed upon actively seeking out new ideas and best practices from other nuclear sites or organizations. (3.64, ↓2.6%, 86.5% positive response – Effective)

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Three workforce survey questions were designed to obtain the workforce's perspective on progress achieved during the past year. This information is best interpreted as indication of current momentum as perceived by the workforce.

- “During the past year, the quality and value of our Section Integrated Performance Assessments have improved.”  
(DBNPS Rating of 3.61, 91.3% Positive Response – Significant Improvement)
- “During the past year, the quality and value of assessments performed by the DBNPS/FENOC Nuclear Oversight organizations have improved.”  
(DBNPS Rating of 3.55, 91.6% Positive Response – Significant Improvement)
- “During the past year, we have improved our effectiveness in identifying and resolving problems before they become self-revealing or are identified to us by others.”  
(DBNPS Rating of 3.65, 93.0% Positive Response – Significant Improvement)

### **VI.C ADDITIONAL INFORMATION OBTAINED FROM THE SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

Refer to Section IV.B.7 of this Report.

In addition to the DBNPS-specific information obtained through the activities documented in Section IV.B.7 of this Report, the Assessment Team reviewed documentation and conducted interviews related to the FENOC Fleet Focused Self Assessment, “Pre-NIEP Self-Assessment of Fleet Oversight (FL-SA-07-001).

That self-assessment was particularly thorough and demonstrated a high degree of introspection and self-criticalness. One of the key findings of that self-assessment was that the Nuclear Oversight organizations need to improve their performance in driving the Site organizations to achieve higher standards of excellence in Site performance.

### **VI.D ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Based on an integrated assessment of the five diverse sources of input related to the effectiveness of DBNPS self-assessment activities and self-identification of performance weaknesses, the Assessment Team has concluded that this cultural area is Generally Effective and improving.

Three Opportunities for Improvement have been identified and are documented in Section IV.B.7 of this Report. In addition, two Observations & Suggestions have been presented in Section IV.B.7 of this Report.

## VII. EFFECTIVENESS OF CORRECTIVE ACTIONS TAKEN TO ADDRESS NSC/SCWE AREAS FOR IMPROVEMENT IDENTIFIED IN THE 2006 INDEPENDENT ASSESSMENT

### Introduction

The Assessment Team assessed the effectiveness of corrective actions taken to address the NSC/SCWE AFIs previously identified in the 2006 Independent Assessment by evaluating available information related to each AFI, including:

- The 2007 DBNPS Independent Assessment workforce survey results related to the AFI.
- Actions taken by DBNPS to address the AFI both within the context of the CAP and outside of the CAP. In this regard, CAP documentation was reviewed and interviews were conducted both with personnel assigned to evaluate and address the AFIs through the CAP and with personnel knowledgeable of other actions taken outside of the context of the CAP.
- Personnel interviews, including interviews with personnel in organizations that were identified as localized AFIs in 2006.

### 2006 NSC AFI #1

*“The Nuclear Plant Systems Engineering organization and the Nuclear Warehouse organization provided ratings of Not Effective for the Overall NSC, NS VB&P, SCWE and ECP key cultural metrics. These organizations represent localized Areas for Improvement.”*

#### Nuclear Plant Systems Engineering

Based on personnel interviews conducted as part of the 2006 Independent Assessment, the Assessment Team determined that the most likely driving factors for the low ratings provided by this organization in 2006 were primarily related to:

- Mid-year performance evaluations following RFO14. A significant number of the personnel in this group received “partially effective” mid-year performance evaluations following RFO14 and felt that this was inappropriate and unfair. These individuals felt that they were being unfairly punished for decisions and management actions that were outside of their control.
- Feeling unfairly blamed for poor outage performance. Members of this organization feel they are being asked to accept more than their fair share of the blame for poor outage performance.
- Significant staffing shortages, including an acting supervisor. Progress in filling open billets was perceived to be slow. This situation was apparently stressing the organization with respect to workload and was impacting the ability of the organization to meet work performance expectations.

The evaluation conducted through the CAP (CR 07-13593) confirmed and expanded upon the above-mentioned driving factors. Actions taken included (but were not limited to) the following:

- Addressing staffing concerns by: (1) hiring a full-time supervisor; (2) filling the open staffing billets; and (3) focusing on the training/qualifications for new hires.
- Addressing workload/work management concerns by increased supervisory attention to “task list reviews” and work prioritization.
- Using system long-range plans and system health reports to focus on equipment reliability concerns.

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- Providing specific criteria to be used in the performance appraisal for each individual
- Establishing a new FENOC “Outage and Resource Sharing Plan” that more explicitly addresses the policy and process for “extra hours compensation”.

The 2007 workforce survey ratings provided by the Nuclear Plant Systems Engineering improved very significantly:

- The Overall NSC rating improved very significantly from 3.35 to 4.27 (↑28%)
- The Overall NS VB&P rating improved very significantly from 3.22 to 4.14 (↑29%)
- The Overall SCWE rating improved very significantly from 3.84 to 4.68 (↑22%)
- The overall ECP rating improved very significantly from 2.70 to 4.01 (↑48%)

Personnel interviews conducted as part of the 2007 Independent Assessment identified that:

- The conditions in this group have improved significantly
  - They have filled the supervisory position with a respected and qualified individual.
  - They have also filled vacant positions in the group and staffing/workload is no longer a significant issue.
  - They have reduced their backlogs to appropriate steady state levels.
- The use of Plant Health Reports is improving and they are viewed a positive means for communicating and prioritizing system needs.

### CONCLUSION:

The 2007 Assessment Team has concluded that the actions to address 2006 NSC AFI #1 for the Nuclear Plant Systems Engineering organization were Effective.

### Nuclear Warehousing

Based on personnel interviews conducted as part of the 2006 Independent Assessment, the Assessment Team determined that the most likely driving factors for the low ratings provided by this organization in 2006 were primarily related to:

- Dissatisfaction with the DBNPS response to several industrial safety “events” involving Nuclear Warehouse personnel.
- Dissatisfaction with the ECP response to a personnel-related concern
- Lack of recognition for doing their job successfully to support the outage (RFO14).

The evaluation conducted through the CAP (CR 07-13594) confirmed and expanded upon the above-mentioned driving factors. Actions taken included (but were not limited to) the following:

- Several industrial safety issues affecting Nuclear Warehouse personnel were addressed.
- ECP familiarization training was provided by the ECP representative to Nuclear Warehouse personnel.
- A project plan is under development to facilitate the restructuring of the Warehouse storage conditions/practices with assigned responsibilities and due dates.

The 2007 workforce survey ratings provided by the Nuclear Plant Systems Engineering improved very significantly:

- The Overall NSC rating improved very significantly from 3.30 to 4.20 (↑27%)
- The Overall NS VB&P rating improved very significantly from 3.14 to 4.11 (↑31%)
- The Overall SCWE rating improved very significantly from 3.80 to 4.49 (↑18%)
- The overall ECP rating improved very significantly from 2.90 to 3.96 (↑36%)

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Personnel interviews conducted as part of the 2007 Independent Assessment identified that:

- Some feel that the plant keeps blaming the warehouse for delays in material being available for the outage, when the real reason is lack of adequate planning by the plant.
- Some feel that workload is an issue. The analysts are stretched thin (once had 6, but now have 2). The analysts formally were located in the warehouse, where we could have face-to-face contact; now their office is located elsewhere and communication is more difficult.
- Most feel that more storage space is needed. A bigger building is needed to properly store material.
- A number of business-related concerns were identified.

### CONCLUSION:

The 2007 Assessment Team has concluded that the actions to address 2006 NSC AFI #1 for the Nuclear Warehousing organization were Effective.

### 2006 NSC AFI #2

*“The Engineering Programs organization provided ratings of Marginally Effective for the Overall NSC, NS VB&P and ECP key cultural metrics. The approximate trends for the ratings of the Overall NSC and the SCWE were Very Significantly Declined. This organization represents a localized Area for Improvement.”*

Based on personnel interviews conducted as part of the 2006 Independent Assessment, the Assessment Team determined that the most likely driving factors for the low ratings provided by this organization in 2006 were primarily related to:

- Mid-year performance evaluations following RFO14. A significant number of the Staff Nuclear Engineers in this group received “partially effective” mid-year performance evaluations following RFO14 and felt that this was inappropriate and unfair. These individuals felt that they were being unfairly punished for decisions and management actions that were outside of their control.
- Lack of compensation for significant levels of overtime. As a result of the poor RFO14 outage performance, there were no bonuses that would have compensated the Staff Nuclear Engineers for extensive amounts of overtime that they worked during the outage. This, in combination with the performance evaluations discussed above, has had a very negative impact on morale.
- Circumstances associated with a recent change in supervision.
- Lack of confidence in supervision and management.
- Negative attitudes of specific personnel

The evaluation conducted through the CAP (CR 07-13595) was frustrated somewhat by (1) the fact that the assigned evaluator was not aware of the information available (noted above) on the most likely driving factors for the low ratings and (2) resistance encountered in obtaining participation in the evaluation by the Engineering Programs workforce. Nonetheless, the evaluation generally confirmed and expanded upon the above-mentioned driving factors. Actions taken included (but were not limited to) the following:

- Increased focus on improving trust in supervision and management through increased communications and engagement with the workforce.
- Addressing resource management concerns by increased supervisory and management attention to work management and work prioritization (e.g., monthly feedback)

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- Focus on reducing work backlog, including implementation of the “Open Condition Report Closure Plan”.
- Establishing a new FENOC “Outage and Resource Sharing Plan” that more explicitly addresses the policy and process for “extra hours compensation”.

The 2007 workforce survey ratings provided by the Engineering Programs organization improved very significantly:

- The Overall NSC rating improved very significantly from 3.67 to 4.33 (↑18%)
- The Overall NS VB&P rating improved very significantly from 3.52 to 4.24 (↑20%)
- The overall ECP rating improved very significantly from 3.52 to 4.08 (↑16%)

Personnel interviews conducted as part of the 2007 Independent Assessment identified that conditions in this group have improved:

- The supervisor of the group has become more respected and the group is more accepting of his style.
- The new manager of the Technical Services organization is considered to have had a positive impact on clarifying expectations and focus and in getting the right kind of attention and cooperation from the rest of the organization.
- Backlogs have been reduced to appropriate levels.
- Effective performance management has been employed.

### CONCLUSION:

The 2007 Assessment Team has concluded that the actions to address 2006 NSC AFI #2 for the Engineering Programs organization were Effective.

### 2006 NSC AFI #3

*“The DBNPS Site Composite Organization rating of the NS VB&P attribute “Functional Organization staffing levels are consistent with the demands of maintaining Nuclear Safety and safe plant operations” was ‘Not Effective’. Thirteen individual DBNPS Functional Organizations also provided low ratings of the “Adverse Effects of Workload on Nuclear Safety” metric: eight were ‘Not Effective’ and five were ‘Marginally Effective’. These organizations are identified in Section IV.B.12. These low ratings represent indicators of localized staffing, workload and/or workload management related issues that are perceived to be having an adverse impact on Nuclear Safety performance in those organizations.”*

The evaluation conducted through the CAP (CR 07-13597) was thorough and identified issues related to multiple open positions in six specific organizations, four organizations that have new personnel who are not fully qualified and the lack of an effective work management and prioritization tool for the engineering organizations. The evaluation per se only resulted in a few specific corrective actions, most notably:

- Authorization to hire 6 new operations training instructors.
- Conduct of a resource review for the technical skills training

The evaluation noted that actions were already underway to fill the identified open positions and that these actions were being pursued and monitored through the Vital Hires program. It also noted that actions were being taken through CR 07-12153-01, CR 07-12153-02 and CR 07-1253-03 to establish an effective work management tool for individual engineers, supervisors and managers.

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The Vital Hires program has been effective in filling many of the open positions during the past year. In addition, in anticipation of retirements (aging work force) and increasing workloads in certain areas (e.g., due to the implementation of the PM Templates), DBNPS management has hired additional staff beyond its authorized allocation; as of November 2007, DBNP was 24 positions over its authorized allocation.

Improved work management and work prioritization methods are being utilized in at least some engineering organizations.

The 2007 workforce survey rating of “Functional Organization staffing levels are consistent with the demands of maintaining Nuclear Safety and safe plant operations” provided by the DBNPS Site Composite organization improved very significantly from 3.04 to 3.47 (↑14%). Based on comparing the DBNPS Site Composite rating against commercial nuclear power plant industry norms, this cultural attribute is now characterized as an “Area of Strength”.

The 2007 workforce survey rating of the “Adverse Impacts of Workload on Nuclear Safety” provided by the DBNPS Site Composite organization improved notably from 3.68 to 3.97 (↑8%). Based on comparing the DBNPS Site Composite rating against commercial nuclear power plant industry norms, this cultural component is characterized as an “Area of Strength.”

As shown in Table 25 below, the individual DBNP Functional Organizations that provided the lowest ratings of “Adverse Impacts of Workload on Nuclear Safety” in the 2006 Independent Assessment have all provided significantly improved ratings in 2007.

**TABLE 25  
ADVERSE IMPACTS OF WORKLOAD ON NUCLEAR SAFETY**

<b>ORGANIZATION</b>	<b>2006</b>	<b>2007</b>	<b>TREND</b>
Nuclear Warehouse	2.70	4.10	51.9%
Reactor Engineering	2.92	3.63	24.1%
Operations Training	3.04	3.59	18.1%
Nuclear Plant Systems Engineering	3.06	3.96	29.4%
Nuclear Technical Training	3.25	4.31	32.4%
Rapid Response Engineering	3.27	4.25	30.0%
Chemistry	3.27	3.81	16.5%
Nuclear ALARA/RP Services	3.28	4.06	23.8%
Engineering Programs	3.31	4.10	24.0%
Work Planning	3.31	3.75	13.1%

The 2007 Independent Assessment workforce survey included a special “inherent trend” question designed to obtain workforce input on improvements in the effectiveness of prioritizing and managing workload:

“During the past year, in my Functional Organization we have improved our effectiveness in prioritizing and managing our workload.”

The DBNPS Site Composite rating of this question indicates that “Notable Improvement” has occurred.

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The following individual Functional Organizations provided ratings of this question that indicate Lack of Improvement:

- Engineering Analysis – Very Significant Lack of Improvement
- Nuclear Mechanical/Structural Engineering – Significant Lack of Improvement
- Electrical Maintenance – Notable Lack of Improvement
- Nuclear ALARA/RP Services – Notable Lack of Improvement

Survey write-in comments and personnel interviews indicate that several DBNPS organizations continue to be stressed with staffing/attrition issues or workload/work management issues that are affecting either their ability to simultaneously accomplish “competing” objectives (e.g., both backlog reduction and training & qualification in Electrical Maintenance) or their ability to accomplish assigned work without extensive overtime (e.g., Operations Training, Operations, Operations Services).

### CONCLUSION:

The 2007 Assessment Team has concluded that the actions to address 2006 NSC AFI #3 were Effective. However, continued attention is needed.

### 2006 NSC AFI #4

*“The DBNPS Site Composite Organization rating of the NS VB&P attribute ‘Appropriate levels of oversight and control of contractor work activities are provided to ensure that Nuclear Safety is maintained’ was ‘Not Effective’. Other sources of information available to the Assessment Team confirmed that oversight and control of contractor work activities during plant outages is perceived by many to be a significant area of concern.”*

DBNPS addressed this AFI through previously existing CRs (CR 06-01502 and CR 06-01576), which are focused on developing and implementing an effective Contractor Oversight plan to address the human performance of non-station personnel, particularly during refueling outages.

The resulting DBNPS Contractor Oversight plan was evaluated as part of an INPO Assist Visit in June 2007. Snapshot Self-Assessment DB-SA-07-078 “Readiness Review for Oversight and Control of Non-Station Personnel before 15RFO” was conducted in October 2007.

The DBNPS Contractor Oversight Plan includes a comprehensive set of initiatives to improve contractor human performance, including (but not limited to):

- Increased oversight by DBNPS personnel
- Training of Non-Station personnel, including mock-up training designed to sensitize personnel to potential error traps
- Requiring non-station personnel to use FENOC/DBNPS human performance enhancement tools, pre-job briefings, etc.
- Creating user-friendly work packages
- Walk-downs of work packages to identify potential error traps (e.g., labeling issues)
- Partnering with suppliers of personnel, including engagement in outage planning

The 2007 workforce survey rating of “Appropriate levels of oversight and control of contractor work activities are provided to ensure that Nuclear Safety is maintained” provided by the DBNPS Site Composite organization improved notably from 3.27 to 3.59 (↑9.9%).



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### CONCLUSION:

The 2007 Assessment Team has concluded that the actions to address 2006 NSC AFI #4 have been comprehensive and should result in significantly improved contractor human performance during RFO15. A final determination of effectiveness is pending the conduct of RFO15.

### 2006 NSC AFI #5

*“The DBNPS Site Composite Organization rating of the NS VB&P attribute “Site funding levels are consistent with the demands of maintaining Nuclear Safety and safe plant operations” was ‘Not Effective’. Other sources of information available to the Assessment Team indicate that this low rating represents, at a minimum, a significant communications issue.”*

The evaluation conducted through the CAP (CR 07-13600) was thorough and identified that there is a lack of understanding by Davis-Besse personnel of how the project approval and resource allocation process interacts with budgets and cost control. The evaluation also noted that the low rating provided in the 2006 Independent Assessment was likely influenced by the visible impacts of the budget recovery process that were necessary due to the cost overruns associated with RFO14 (e.g., the reduction/elimination of funding to work off the elective maintenance backlog in the second half of 2006).

Actions taken included (but were not limited to) the following:

- Implement a plan to communicate how the project approval and resource allocation process interacts with budgets and cost control so that the perception that ‘site funding levels are not consistent with the demands of maintaining Nuclear Safety and safe plant operations’ is mitigated.

It appears that the communication plan was focused primarily on supervisors and technical staff. It is not clear to what extent communications were held with workers at the DBNPS site.

It also appears that the primary focus of the communications were on the project approval process. At its management debrief in December 2006, the Independent Assessment Team suggested that such communications should include information on the planned commitment of funds (by FENOC) to continue to support DBNPS. Personnel assigned to evaluate this issue were not aware of this Assessment Team suggestion and, therefore, did not address it.

The 2007 workforce survey rating of “Site funding levels are consistent with the demands of maintaining Nuclear Safety and safe plant operations” provided by the DBNPS Site Composite organization improved very significantly from 3.10 to 3.67 (↑19%).

### CONCLUSION:

On the strength of the improved workforce survey rating, the 2007 Assessment Team has concluded that the actions to address 2006 NSC AFI #5 were generally effective. However, the Assessment Team is not convinced that the improved rating was a result of the corrective actions taken. Continued attention to this area is needed; refer to 2007 ANA-N-2.

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### 2006 NSC AFI #6

*“The DBNPS Site Composite Organization rating of the SCWE attribute “Performance reviews, financial rewards, promotions, personnel recognition and personnel sanctions foster and reinforce attitudes and behaviors that are consistent with a strong Nuclear Safety Culture” was ‘Not Effective’. Other sources of information available to the Assessment Team indicate that the breakdown (real or perceived) of the DBNPS performance appraisal process after RFO 14 is likely to have significantly contributed to this low rating.”*

The evaluation conducted through the CAP (CR 07-13601) was thorough. The evaluation confirmed that the manner in which the DBNPS performance appraisal process was implemented during the mid-cycle performance reviews after RFO14 was at the root of the low survey rating of this cultural attribute. For the 2006 year-end performance appraisals, the process was implemented in a manner that was more consistent with industry norms. Based on the evaluation of this CR, a number of other actions were taken across a spectrum of related areas.

The 2007 workforce survey rating of “At DBNPS, the system of rewards and sanctions encourages behaviors that are consistent with a strong Nuclear Safety Culture” provided by the DBNPS Site Composite organization improved very significantly from 2.81 to 3.68 (↑31%).

### CONCLUSION:

The 2007 Assessment Team has concluded that the actions to address 2006 NSC AFI #6 have been effective.

## COIA-SC-2007 FINAL REPORT

### VIII. REPORT ATTACHMENTS

Additional information related to the 2007 Independent Assessment of the DBNPS NSC/SCWE is provided in Attachments to this Report. These are listed below.

- Attachment 1 Survey Participation – Detailed Information
- Attachment 2 Personnel Interviews – Detailed Information
- Attachment 3 General Culture & Work Environment – Detailed Results
- Attachment 4 Leadership, Management and Supervisory Behaviors & Practices – Detailed Results
- Attachment 5 NRC RIS 2006-13 Model Results – Detailed Results
- Attachment 6 Inherent Trending Survey Question Results
- Attachment 7 Demographic Variations Information

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### IX. ADDITIONAL INFORMATION PROVIDED SEPARATELY

The following additional SYNERGY proprietary information related to the 2007 Independent Assessment of the DBNPS NSC/SCWE has been provided to DBNPS management on a SYNERGY-proprietary CD-ROM disk:

1. The 2007 DBNPS Nuclear Safety Culture Workforce Survey Form
2. Assignments of the 2007 DBNPS Nuclear Safety Culture survey questions to SYNERGY's cultural model for NRC RIS 2006-13
3. 2007 Survey Question Ratings for the DBNPS Site Composite Organization, Major Functional Organizations, Individual Functional Organizations and Demographic Categories. This information is presented in a format with questions ranked from low to high based on mean value rating.
4. 2006-2007 Survey Question Rating Trends for the DBNPS Site Composite Organization, Major Functional Organizations, Individual Functional Organizations and Demographic Categories. This information is presented in a format with questions ranked from low to high based on mean value rating.
5. Color-coded windows providing data and data characterization for survey numerical ratings and 2006-2007 trends for all key cultural NSC/SCWE metrics used in SYNERGY's Model of the NSC. This information is provided for the DBNPS Site Composite Organization, Major Functional Organizations, Individual Functional Organizations and Demographic Categories.
6. Color-coded windows providing data and data characterization for survey numerical ratings and 2006-2007 trends for all key cultural GCWE/LMS metrics used in SYNERGY's Models of the GCWE and LMS. This information is provided for the DBNPS Site Composite Organization, Major Functional Organizations, Individual Functional Organizations and Demographic Categories.
7. Color-coded windows providing data and data characterization for survey numerical ratings and 2006-2007 trends for all key cultural metrics used in SYNERGY's Model of NRC RIS 2006-13. This information is provided for the DBNPS Site Composite Organization, Major Functional Organizations, Individual Functional Organizations and Demographic Categories.
8. Information on SYNERGY's proprietary methodology and evaluation criteria used to identify individual Functional Organizations that are considered to be "outlier organizations" based on key cultural metric ratings and trends.
9. Information on SYNERGY's proprietary methodology and evaluation criteria used to identify individual Functional Organizations that are considered to be "outlier organizations based on ratings and trends associated with specific SCWE-related cultural metrics and attributes.
10. Information on the Psychometric and Other Properties of the DBNPS Nuclear safety Culture Workforce Survey Instrument

SYNERGY has provided a redacted version of the survey write-in comments to DBNPS management on a confidential CD-ROM disk. This information has been provided on the basis that access will be limited and carefully controlled to those with a genuine "need to know".

SYNERGY has provided DBNPS management both a proprietary and non-proprietary copy of the Westat Report on the "Psychometric Properties of the Davis-Besse 2007 Nuclear Safety Culture Survey" dated December 12, 2007.

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### X. ASSESSMENT TEAM MEMBER BIOGRAPHIES

Biographies for the Assessment Team members are provided below:

- John C. Guibert, Principal, SYNERGY Consulting Services Corporation – Team Leader
- Timothy K. Snyder, Principal, SYNERGY Consulting Services Corporation
- John W. Audas, Industry Peer – Comanche Peak Nuclear Power Plant
- David Garcia, Industry Peer – Point Beach Nuclear Power Plant

#### **John C. Guibert**

Mr. Guibert served as the Assessment Team leader for the 2007 Independent Assessment of the DBNPS NSC/SCWE. He previously served as Project Manager for more than fifty similar cultural assessments performed by SYNERGY, including the 2006 Independent Assessment of the DBNPS NSC/SCWE.

Mr. Guibert has over 35 years of nuclear experience. He is a graduate of the United States Naval Academy and Catholic University (MSNE). Currently, he is a principal and founder of SYNERGY Consulting Services Corporation (founded in 1992). He co-developed SYNERGY's Comprehensive Cultural Assessment methodology - a process that establishes objective measures of nuclear safety and general culture based upon models of high performing enterprises.

He was formerly Senior Vice President and Chief Operating Officer of a major technical and management consulting firm serving the commercial nuclear power industry. Prior to that, he was responsible for the development and management of a nuclear consulting practice focused on improving the performance of operating nuclear power plants. His other previous experience included management positions with another major nuclear consulting firm, technical and management positions with the Nuclear Regulatory Commission and service as an officer in the Navy's nuclear power program.

#### **Timothy K. Snyder**

Mr. Snyder has over 35 years of experience in providing management and engineering consulting services to the nuclear power and other industries. He is a graduate of the University of California – Berkeley. In January of 2006, he joined SYNERGY Consulting Services Corporation. Since that time, he has served as the Project Manager for seven cultural assessments, including the 2007 Independent Assessment of the Palo Verde Nuclear Generating Station.

During the preceding eight years, Mr. Snyder worked as an Associate of SYNERGY, participating in the performance of comprehensive cultural assessments and improvement projects at more than twenty nuclear power and fuel processing facilities. In his consulting practice, he has specialized in management consulting focused on producing significant organizational performance improvements. His areas of management expertise include operational performance, safety and workplace culture, effective management practices, work process analysis and design, information system management, and procedure effectiveness. Mr. Snyder has also worked as an Associate of Little Harbor Consultants in the performance of safety culture assessment and improvement projects for a nuclear facility, a major oil pipeline, and a DOE nuclear waste management contractor. In his early career, he held positions with two major nuclear consulting firms.

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### **John W. Audas**

John W. Audas has been employed by TXU since 1985 and is currently the SAFETEAM Manager (Employee Concerns Program Manager) at the Comanche Peak Station.

Mr. Audas has over 30 years of nuclear power industry experience and five years experience in the petro-chemical industry. Prior to joining TXU, he held engineering positions at two nuclear Architect Engineering firms and performed as engineering supervisor at a nuclear facility. Previous positions held while employed at TXU include Licensing Engineer and Project Manager.

Mr. Audas is one of the founding members of the Employee Concerns Program Forum and a member of the forum's Board of Directors.

Mr. Audas is a graduate of Georgia Institute of Technology and has a Bachelor of Science and Master's Degrees in Physics.

### **David V. Garcia**

Mr. Garcia is presently the Manager of Industrial Health and Safety at the Point Beach Nuclear Plant, responsible for support and counsel in matters of industrial health and safety as they relate to the compliance with regulatory agencies. Mr. Garcia was peer team lead with Nuclear Management Company and a member of the Point Beach Nuclear Culture Survey Team. Other positions during his employment with Nuclear Management Company (NMC) include Maintenance Supervisor/Planner/Scheduler, Work Week Manager – Production Planning, and Corrective Actions Specialist in the Performance Assessment Group. Prior to his employment with NMC, Mr. Garcia was an electrical auxiliary operator at the Zion Nuclear Power Plant.

Mr. Garcia served as a Weather Specialist-Electronics Technician in the United States Air Force and will graduate from Silver Lake College in Wisconsin, with a Bachelor of Science Degree in Business Management.

## COIA-SC-2007 FINAL REPORT ATTACHMENT 1 SURVEY PARTICIPATION

### Introduction

The targeted population for the survey included all FENOC employees at DBNPS and all long-term contractors supporting DBNPS. Therefore, the surveying strategy did not include reliance on random sampling techniques. Ideally, the objective was to obtain 100% participation (versus setting statistical criteria for selecting a sample).

Participation in the survey was voluntary but strongly encouraged by FENOC. The survey administration period was from September 3, 2007 through September 21, 2007. The survey was administered by FENOC using administration guidance provided by SYNERGY. Completed surveys were mailed directly to ORI, Inc. – SYNERGY's independent data processor.

The DBNPS Site Composite Organization survey participation rate was 72.3%<sup>1</sup>. While somewhat lower than the industry average of 77% for surveys conducted by SYNERGY, this participation rate is sufficient to obtain meaningful insights and to reach conclusions.

Since the actual survey participation rate was lower than 100%, the survey yielded an implicit "sample" of the targeted population. The degree of randomness of this sample is unknown. Given this uncertainty, the objective was to assure that the survey participation and response was sufficiently representative to draw conclusions at various DBNPS organizational levels and for key demographic categories. It is generally true that with higher response rates, the confidence level in the results is higher and the margin of error is lower.

Personnel interviews confirmed that the targeted population was provided ample opportunity to take the survey and was encouraged to do so.

The following systematic factors may have contributed to less than 100% participation:

1. Participation in the survey was voluntary.
2. The annual DBNPS SCWE Survey had been administered just prior to the administrations of the 2007 DBNPS NSC Independent Assessment Workforce Survey. A number of individuals, both management and workforce, expressed concern that the organization has been "surveyed out".
3. Approximately 14 personnel were on loan supporting an outage at Beaver Valley during the time that the survey was administered. However, based on personnel interviews, it appears that these individuals had ample opportunity to participate in the survey prior to starting their temporary assignment.
4. Approximately 12 janitorial and food services contractors did not participate in the survey.

A few individual DBNPS Functional Organizations were identified as "Low Responding" based on survey participation rates less than 40%:

- Nuclear ALARA/Radiation Protection Services – 31%
- Nuclear Technical Training – 36%
- Other Maintenance Organization – 39%
- Other Operations – 39.5%

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<sup>1</sup> This compares to a survey participation rate of 70.1% for the 2006 DBNPS Independent Assessment NSC Survey.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 1**  
**SURVEY PARTICIPATION**

Due to the lower survey participation rates by those organizations, interviews were conducted with personnel from those organizations<sup>2</sup> to determine whether the survey numerical results for these organizations were sufficiently representative. Based on the results of the personnel interviews, the Assessment Team concluded that the numerical results for those organizations are sufficiently representative and can be relied upon.

**Survey Participation Details**

Survey participation rate details by Worker Category are presented in Table 1-1 below.

Survey participation rate details by Functional Organization are presented in Table 1-2 below. Low Responding organizations, based on survey participation rates less than 40%, are highlighted in yellow.

**Table 1-1**

<b>WORKER CATEGORY</b>	<b>HEADCOUNT</b>	<b>SURVEY PARTICIPANTS</b>	<b>RESPONSE PERCENT</b>
Salaried/Exempt Employee	401	316	78.8%
Non-Union/Non-Exempt Employee	55	54	98.2%
Union Employee	361	237	65.6%
Contractor	24	11	45.8%

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<sup>2</sup> It was determined that the low survey participation rate in the "Other Maintenance Organization" was solely due to non-participation by 12 janitorial or food service contractors. As a result, the Assessment Team determined that personnel interviews were not necessary for the "Other Maintenance Organization".



**COIA-SC-2007 FINAL REPORT ATTACHMENT 1  
SURVEY PARTICIPATION**

**Table 1-2**

<b>ORGANIZATION</b>	<b>ORG HEADCOUNT</b>	<b>SURVEY PARTICIPANTS</b>	<b>RESPONSE PERCENT</b>
<b>DBNPS TOTAL</b>	<b>841</b>	<b>608</b>	<b>72.3%</b>
Employees	817	597	73%
Contractors	24	11	46%
<b>SITE OPERATIONS</b>	<b>223</b>	<b>138</b>	<b>61.9%</b>
<u>Operations</u>	<u>117</u>	<u>67</u>	<u>57.3%</u>
Shift Operations	68	47	69.1%
Operations Services	43	17	39.5%
Other Operations Org (including HP/IS)	6	3	50.0%
<u>Radiation Protection</u>	<u>38</u>	<u>20</u>	<u>52.6%</u>
Nuclear Radiation Protection	20	14	70.0%
Nuclear ALARA/Radiation Protection Services	16	5	31.3%
Other Radiation Protection Organization	2	1	50.0%
<u>Chemistry</u>	<u>23</u>	<u>15</u>	<u>65.2%</u>
Work Management	11	11	100.0%
Outage Management	6	5	83.3%
<u>Supply Chain</u>	<u>26</u>	<u>17</u>	<u>65.4%</u>
Davis-Besse Supply Chain	11	11	100.0%
Nuclear Warehousing	10	4	40.0%
Other Supply Chain	5	2	40.0%
Other Director of Site Operations Organization	2	3	150.0%
<b>SITE MAINTENANCE</b>	<b>211</b>	<b>146</b>	<b>69.2%</b>
<u>Maintenance</u>	<u>124</u>	<u>82</u>	<u>66.1%</u>
I&C Maintenance	29	13	44.8%
Electrical Maintenance	34	22	64.7%
Mechanical Maintenance	32	26	81.3%
FIN Maintenance	24	14	58.3%
Other Maintenance Organization	18	7	38.9%
<u>Work Planning</u>	<u>35</u>	<u>32</u>	<u>91.4%</u>
<u>Maintenance Services</u>	<u>37</u>	<u>29</u>	<u>78.4%</u>
Other Director of Site Maintenance Organization	2	3	150.0%
<b>SITE PERFORMANCE IMPROVEMENT</b>	<b>100</b>	<b>76</b>	<b>76.0%</b>
<u>Training</u>	<u>42</u>	<u>23</u>	<u>54.8%</u>
Operations Training	20	12	60.0%
Nuclear Technical Training	14	5	35.7%
Training Services	6	4	66.7%
Other Training Organization	2	2	100.0%
<u>Regulatory Compliance</u>	<u>16</u>	<u>16</u>	<u>100.0%</u>
<u>Projects</u>	<u>12</u>	<u>11</u>	<u>91.7%</u>
<u>Nuclear Procedures Control</u>	<u>10</u>	<u>8</u>	<u>80.0%</u>
<u>Emergency Response</u>	<u>8</u>	<u>7</u>	<u>87.5%</u>
<u>Records Management</u>	<u>8</u>	<u>8</u>	<u>100.0%</u>
Other Director of Performance Improvement Org.	4	3	75.0%

**COIA-SC-2007 FINAL REPORT ATTACHMENT 1  
SURVEY PARTICIPATION**

<b>ORGANIZATION</b>	<b>ORG HEADCOUNT</b>	<b>SURVEY PARTICIPANTS</b>	<b>RESPONSE PERCENT</b>
<b>SITE ENGINEERING</b>	<b>124</b>	<b>120</b>	<b>96.8%</b>
<u>Plant Engineering</u>	<u>39</u>	<u>38</u>	<u>97.4%</u>
Nuclear Electrical Systems Engineering	15	14	93.3%
Nuclear Plant Systems Engineering	11	11	100.0%
Nuclear Supply Systems Engineering	7	6	85.7%
Reactor Engineering	4	4	100.0%
Other Plant Engineering Organization	2	3	150.0%
<u>Design Engineering</u>	<u>38</u>	<u>40</u>	<u>105.3%</u>
Nuclear Mechanical/Structural Engineering	12	12	100.0%
Nuclear Electrical/I&C Engineering	10	11	110.0%
Engineering Analysis	7	8	114.3%
Nuclear Configuration Control	7	7	100.0%
Other Design Engineering Organization	2	2	100.0%
<u>Technical Services Engineering</u>	<u>36</u>	<u>33</u>	<u>91.7%</u>
Nuclear Document Control	9	9	100.0%
Nuclear Engineering Programs	12	10	83.3%
Nuclear Rapid Response Engineering	11	11	100.0%
Other Technical Services Engineering Org.	4	3	75.0%
<u>Nuclear Procurement Engineering</u>	<u>8</u>	<u>6</u>	<u>75.0%</u>
<u>Other Director of Site Engineering Organization</u>	<u>3</u>	<u>3</u>	<u>100.0%</u>
<b>SITE VICE PRESIDENT ORGANIZATIONS</b>	<b>183</b>	<b>104</b>	<b>56.8%</b>
DB Nuclear Oversight/Quality Control/ECP	24	23	95.8%
Business Services	7	8	114.3%
Site Protection/Security (including Nuclear Access)	128	58	45.3%
Human Resources/Comm./Leadership & OD)	9	9	100.0%
Other Site VP Organization	15	6	40.0%
<b>Non-Designated Organizational Affiliation</b>	<b>0</b>	<b>24</b>	<b>n/a</b>

**Write-In Comments**

The survey provided two opportunities to provide write-in comments.

Write-in comments were provided by 31% of the survey participants<sup>3</sup>, which is slightly below industry norms based on SYNERGY's experience (33%).

<sup>3</sup> This compares to 35% for the 2006 DBNPS Independent Assessment NSC Survey.

## COIA-SC-2007 FINAL REPORT ATTACHMENT 2 PERSONNEL INTERVIEWS

### Introduction

As an integral part of the 2007 Independent Assessment of the NSC/SCWE at DBNPS, the Assessment Team conducted personnel interviews. These interviews supported a variety of assessment objectives, including the following:

1. To validate survey numerical results through interviews of a broad cross-section of the DBNPS organization. Structured interview questions were used for this purpose<sup>1</sup>. Individual interviewees were chosen by the Assessment Team using random sampling techniques.
2. To validate that the survey numerical results provided by personnel from “low responding organizations” (based on low 2007 survey participation rates) were sufficiently representative of the other personnel from within those organizations. Structured interview questions were used for this purpose. In 2007, three DBNPS organizations were identified as “low responding organizations”<sup>2</sup>. Individual interviewees were chosen by the Assessment Team using random sampling techniques.
3. To obtain insights into the underlying reasons for the low survey ratings provided by individual DBNPS Functional Organizations that were identified in 2007 as Priority Level 1 or Priority Level 2 “organizational outliers” based on industry norms. Only one DBNPS organization was identified as a Priority Level 2 organizational outlier. The Assessment Team decided to treat a second DBNPS organization as if it was a Priority Level 2 organizational outlier. Interview questions included a combination of structured interview questions and questions that were “informed” by the detailed 2007 survey results for those organizations (including survey write-in comments). Individual interviewees were chosen by the Assessment Team using random sampling techniques.
4. To obtain insights into the underlying reasons for the improved survey ratings provided by individual DBNPS Functional Organizations that were identified in the 2006 Independent Assessment as Priority level 1 or 2 “organizational outliers” based on industry norms. There were five such organizations. Interview questions were informed by the detailed 2006 and 2007 survey results (including survey write-in comments), by information obtained through the 2006 personnel interviews conducted by the 2006 Assessment Team, and by information obtained by the 2007 Assessment Team on the corrective actions taken to address the 2006 Independent Assessment results. Individual interviewees were chosen by the Assessment Team using random sampling techniques.
5. To obtain information related to DBNPS self-assessment activities and DBNPS self-identification of performance weaknesses.
6. To obtain information related to the effectiveness of the corrective actions taken by DBNPS to address the NSC-related Areas for Improvement identified through the 2006 Independent Assessment of the NSC/SCWE.
7. To obtain information related to NRC RIS 2006-13 NSC attributes that are not amenable to being addressed through the workforce survey.
8. To follow-up on issues identified through the analysis of the 2007 survey write-in comments.

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<sup>1</sup> A representative sample of the structured interview questions used by the Assessment Team is provided at the end of this Attachment.

<sup>2</sup> A fourth low responding organization (“Other Maintenance”) was not designated for personnel interviews since there was a known constituency (janitorial and food services contractor personnel) that did not participate in the survey and the Assessment Team concluded that there would be little benefit in conducting such interviews.

## **COIA-SC-2007 FINAL REPORT ATTACHMENT 2 PERSONNEL INTERVIEWS**

### **Application of Criteria for Required Number of Personnel Interviews**

For Objectives 2, 3, and 4 above, pre-established criteria were used to determine the number of randomly-selected personnel interviews that would be conducted<sup>3</sup>.

#### Low Responding Organizations for the 2007 Survey (Objective 2)

For individual Functional Organizations that had 2007 survey participation rates < 40%, application of the criteria led to:

- Seven interviews with Operations Services personnel, which were further augmented by six interviews with Shift Operations personnel
- Four interviews with ALARA/RP Services organization personnel, which were further augmented by four interviews with other Radiation Protection organization personnel
- Four interviews with Nuclear Technical Training organization personnel

#### 2007 Outlier Organizations (Objective 3)

For individual Functional Organizations identified as significant outliers<sup>4</sup> with respect to industry norms of acceptability, application of the criteria led to:

- Seven random interviews with Electrical Maintenance personnel.
- Six random interviews with Site Protection/Security personnel

#### 2006 Outlier Organizations (Objective 4)

Application of the criteria led to:

- Three random interviews with Nuclear Plant System Engineering personnel.
- Three random interviews with Engineering Programs personnel
- Two random interviews with Nuclear Warehousing personnel
- Three random interviews with Chemistry organization personnel

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<sup>3</sup> In all cases, additional interviews were conducted with supervisory/management personnel for the organizations covered by Objectives 2, 3 and 4.

<sup>4</sup> This includes organizations assigned Priority Levels 1 and 2, as well as any other organizations identified as significant outliers based upon the detailed analysis of the SCWE.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 2  
PERSONNEL INTERVIEWS**

**Total Number of Personnel Interviews Conducted by the 2007 Assessment Team**

The Assessment Team conducted 125 confidential interviews of FENOC/DBNPS personnel. The distribution of these 125 personnel interviews by category is provided in Table 2-1 below.

**Table 2-1**

<b>INTERVIEW CATEGORY</b>	<b>NUMBER</b>
FENOC Senior Management	6
DBNPS CNRB Members	4
DBNPS Senior Management	5
DBNPS Managers	16
Personnel Responsible for 2006 AFI Corrective Actions	8
Program/Process Leads (e.g., ECP, SCWERT, OPEX, SA/IA, CAP)	8
Random Samples	78
<b>Total</b>	<b>125</b>

The distribution of the 125 personnel interviews by Major Functional Organization is provided in Table 2-2 below.

**Table 2-2**

<b>MAJOR ORGANIZATION</b>	<b>TARGETED</b>	<b>RANDOM</b>
FENOC Nuclear Management	6	0
DBNPS CNRB Members	4	0
Site VP Organizations	14	6
Director of Site Operations Organizations	6	26
Director of Site Maintenance Organizations	2	21
Director of Site Engineering Organizations	6	14
Director of Site Performance Improvement Orgs.	9	11
<b>Total</b>	<b>47</b>	<b>78</b>

The distribution of the 78 randomly-selected personnel interviews by Functional Organization is provided in Table 2-3 below.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 2  
PERSONNEL INTERVIEWS**

**TABLE 2-3**

<b>MAJOR ORGANIZATION</b>	<b>RANDOM INTERVIEWS</b>
Site Protection/Security	6
Shift Operations	6
Operations Services	7
Radiation Protection Organizations	8
Chemistry	3
Nuclear Warehousing	2
Electrical Maintenance	7
I&C Maintenance	3
Mechanical Maintenance	3
FIN Maintenance	2
Maintenance Services	3
Work Planning	3
Plant Engineering	7
Design Engineering	3
Technical Services Engineering	3
Other Engineering	1
Technical Training	4
Operations Training	3
Records Management	2
Emergency Response	2
<b>Total</b>	<b>78</b>

**COIA-SC-2007 FINAL REPORT ATTACHMENT 2  
PERSONNEL INTERVIEWS**

**Sample of Structured Interview Questions**

Did you take the 2007 Nuclear Safety Culture Survey? (If not, why not?)

If you identified a potential nuclear safety issue or concern, what would you do?

Do you know how to use the Corrective Action Program to identify a potential nuclear safety issue or concern? Have you ever used the CAP to do so? If so, were you satisfied with the manner in which your concern was treated and resolved? If not, please elaborate. If not, what did you do?

Are there any conditions under which you would be hesitant to raise a nuclear safety issue or concern? If so, please elaborate.

Have you ever received a negative reaction (from peers, supervision, management or senior management) for having raised or pursued a nuclear safety or quality-related issue or concern? Please elaborate.

Do you know of anyone else at Davis-Besse who has received a negative reaction for having raised or pursued a nuclear safety or quality-related issue or concern? Please elaborate.

Have you received adequate training to perform your assigned work activities? If not, please elaborate.

Have standards and expectations for nuclear safety and nuclear safety performance been effectively communicated to the workforce? What are they? Are they well understood by the workforce? Are they high enough? Have you received adequate training on these standards and expectations as they apply to your day-to-day work activities?

Do you have sufficient time to perform your day-to-day work activities in a high quality manner? If not, please elaborate.

Have you experienced any difficulties in meeting your nuclear safety-related or quality-related job responsibilities? If so, have they been satisfactorily resolved? Please elaborate.

Are you experiencing any difficulties in adhering strictly with the procedural requirements that apply to your day-to-day work activities? If so, please elaborate.

Do you believe that nuclear safety is the top priority at Davis-Besse? Please elaborate.

Are you aware of any situations where nuclear safety has been compromised at Davis-Besse? If so, please elaborate.

Do the attitudes, behaviors and actions of (see list below) consistently demonstrate that nuclear safety and safe facility operations actually are the over-riding priorities at Davis-Besse? Examples?

- Your peers
- Your supervisor
- Your management
- Senior management

**COIA-SC-2007 FINAL REPORT ATTACHMENT 2**  
**PERSONNEL INTERVIEWS**

Do you feel that you have to compromise the quality of your work in order to cut costs or to meet deadlines or schedules? How frequently does this occur? Please elaborate.

What happens when someone makes a mistake? Are people at Davis-Besse willing to self-identify their errors? Please elaborate.

Do you believe that you and your co-workers are being appropriately held accountable for your/their performance? If not, please elaborate.

Does your organization value the recommendations and suggestions that it receives from the Nuclear Oversight organizations? Please elaborate.

Does your organization periodically perform a self-assessment of its performance to identify ways to improve? If so, has this been effective in improving performance? Please elaborate.

If you had the authority to make three changes to improve the nuclear safety culture/nuclear safety performance at Davis-Besse, what would they be?



**COIA-SC-2007 FINAL REPORT ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

## **I. EXECUTIVE SUMMARY**

### **Introduction**

The 2007 Independent Assessment of the DBNPS NSC/SCWE included an assessment of key elements of the General Culture and Work Environment (GCWE) at DBNPS, since industry experience indicates that low GCWE ratings are frequently precursors of potential future challenges to the NSC. In this regard, the Independent Assessment addressed environmental and programmatic areas that are important to overall performance and morale and that may have an inter-dependent relationship with the NSC.

The Overall GCWE and the following GCWE cultural components and cross-cutting topical area were assessed using SYNERGY's standard cultural model for the GCWE:

- High Standards
- Accountability for Performance
- Continuous Improvement
- Conduct of Work
- Teamwork
- Employee Involvement
- Environment of Dignity, Trust and Respect
- General Communications (on topics of interest to the workforce)
- Change Management
- Personnel Development and Training
- Performance Recognition and Reward
- Performance Appraisal
- Overall Personal Satisfaction and Morale
- General Adverse Impacts of Workload (cross-cutting topical area)

**COIA-SC-2007 FINAL REPORT ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**Summary of GCWE Results**

Overall General Culture & Work Environment (GCWE)

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the DBNPS General Culture & Work Environment is Highly Effective.

GCWE Major Components

SYNERGY's GCWE assessment model includes thirteen major cultural components. As shown in Table 3-1 below, based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team has concluded that eight of these major cultural components are Highly Effective and that five are Effective.

**Table 3-1  
GCWE MAJOR COMPONENTS**

<b>COMPONENT/DIMENSION</b>	<b>DBNPS SITE 2007 RATING</b>
<b>OVERALL GENERAL CULTURE &amp; WORK ENVIRONMENT</b>	<b>HIGHLY EFFECTIVE</b>
High Standards	Highly Effective
Focus on Performance/Accountability	Highly Effective
Continuous Improvement	Highly Effective
Conduct of Work	Highly Effective
Teamwork	Highly Effective
Employee Involvement	Highly Effective
Environment of Dignity, Trust and Respect	Highly Effective
General Communications	Highly Effective
Change Management	Effective
Personnel Development & Training	Effective
Performance Recognition/Reward	Effective
Performance Appraisal	Effective
Overall Personal Satisfaction & Morale	Effective

**COIA-SC-2007 FINAL REPORT ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

SYNERGY's GCWE assessment model includes one cross-cutting topical area. The attributes included in this topical area are generally more focused on actual performance than on culture per se. As shown in Table 3-2 below, the Assessment Team has concluded that this GCWE cross-cutting topical area is Effective.

**Table 3-2  
GCWE CROSS-CUTTING TOPICAL AREAS**

<b>TOPICAL AREA</b>	<b>DBNPS SITE 2007 RATING</b>
General Adverse Effects of Workload	Effective

**GCWE Findings**

GCWE Areas of Strength

Numerous Areas of Strength in the DBNPS GCWE were identified. Representative examples are identified in subsequent sections of this Attachment, which address each of the GCWE cultural components individually.

GCWE Areas for Improvement

None were identified.

GCWE Areas in Need of Attention

Two GCWE Areas in Need of Attention were identified:

ANA-G-1: There is a need for increased management attention and focus on providing training and qualification opportunities for Maintenance craft personnel. This is a significant source of frustration within the Maintenance organizations. It appears that workload/resource management is at the root of this concern.

ANA-G-2: The Site Protection/Security organization has been identified as a localized Area in Need of Attention based on the integration of all sources of assessment input. This organization provided notably declined survey ratings for the Overall GCWE and relatively low/significantly declined LMS ratings related to Management.

The survey write-in comments and the personnel interviews confirmed that GCWE/LMS-related issues within this organization warrant additional management attention.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

## **II. GCWE DETAILS**

### **II.A Overall GCWE**

#### **INTRODUCTION**

The overall GCWE rating is based upon the integration of the ratings of the following 13 cultural components:

- High Standards
- Accountability for Performance
- Continuous Improvement
- Conduct of Work
- Teamwork
- Employee Involvement
- Environment of Dignity, Trust and Respect
- General Communications (on topics of interest to the workforce)
- Change Management
- Personnel Development and Training
- Performance Recognition and Reward
- Performance Appraisal
- Overall Personal Satisfaction and Morale

#### **SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION**

##### **DBNPS Site Composite Rating of the Overall General Culture & Work Environment**

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Overall General Culture & Work Environment” is 3.83, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3.8% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The Overall GCWE rating is based upon the integration of numerical ratings of 41 discrete survey questions/cultural attributes. All 41 of these are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

Representative examples of “Areas of Strength” are identified in subsequent sections of this Attachment, which address each of the above-mentioned GCWE components individually.

## **COIA-SC-2007 FINAL REPORT ATTACHMENT 3 GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

2006-2007 trending information is available for 39 of the 41 GCWE cultural attributes. Of these, 38 attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment:

- 3 showed significant improvement ( $\geq 10\%$ )
- 11 showed notable improvement ( $\geq 5\%$ )
- 6 showed nominal improvement ( $\geq 2.5\%$ )
- 18 were relatively steady
- 1 showed nominal decline ( $\geq 2.5\%$ )

The three cultural attributes with 2006-2007 trends representing significant improvement were:

- Conducting timely and effective performance appraisals (17% ↑)
- Recognizing & rewarding performance and accomplishments (16% ↑)
- Developing personnel through coaching, training and mentoring (14% ↑)

It is noteworthy that the three cultural attributes that showed the most significant improvement were all identified as GCWE-Related Areas for Improvement in the 2006 Independent Assessment.

The eleven cultural attributes with 2006-2007 trends representing notable improvement were:

- Ability to maintain plant material condition or reliability is not adversely affected by workload (9%↑)
- Ability to ensure the quality of work products is not adversely affected by workload (8%↑)
- Planning work, including consideration of conditions that could affect human performance (8%↑)
- Current level of overall personal satisfaction and morale as a worker (8% ↑)
- Communications regarding priorities used in decision-making and resource allocation (7%↑)
- Communications regarding annual performance goals and objectives (7%↑)
- Supervisors and managers observe the conduct of work in the field to reinforce standards and expectations (6%↑)
- Individuals are regarded as the organization's most valuable asset (6%↑)
- Adequacy of training on the technical and functional aspects of our jobs (6%↑)
- Communications regarding future plans for the Site (5%↑)
- Making conservative, well-balanced decisions (5%↑)

The one cultural attribute with a 2006-2007 trend representing a Nominal Decline was "Supervisors and managers are personally involved in ensuring that the workforce receives high quality training" (3.3%↓).

**COIA-SC-2007 ATTACHMENT 3**  
**GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organizations provided a particularly low rating of the Overall GCWE, which is considered to be “Marginally Effective” based on industry norms:

- Electrical Maintenance: 3.20

The following individual DBNPS Functional Organizations provided relatively low ratings of the Overall GCWE that, while acceptable based on industry norms, are noteworthy:

- Site Protection/Security: 3.37
- Reactor Engineering: 3.41

Organizations showing the most significant declining 2006-2007 trends in the Overall GCWE rating include:

- Electrical Maintenance: (↓11%)
- Site Protection/Security (↓9%)
- Records Management: (↓6%)

Organizations showing the most significant improving 2006-2007 trends in the Overall GCWE rating include:

- Nuclear Warehousing (↑ 46%)
- Nuclear Plant Systems Engineering (↑ 39%)
- Engineering Programs (↑ 29%)

It is noteworthy that the three DBNPS individual Functional Organizations that were identified as localized Areas for Improvement in the 2006 Independent Assessment showed the most significant improvement.

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.B GCWE High Standards**

**INTRODUCTION**

This GCWE cultural component measures attributes related to establishing and maintaining high performance standards.

DBNPS Site Composite Rating of GCWE High Standards

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE High Standards” is 3.91, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2.6% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 4 of the individual “GCWE High Standards” cultural attributes showed either notably improved or relatively steady ratings since the 2006 Independent Assessment. Two attributes showed notable improvement ( $\geq 5\%$ ):

- Ability to assure the quality of work/work products is not adversely affected by workload. (3.63,  $\uparrow 8\%$ , 84.6% positive response)
- Ability to maintain plant material condition or reliability is not adversely affected by workload. (3.70,  $\uparrow 9\%$ , 88.1% positive response)

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 4 of the individual “GCWE High Standards” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- Within my Functional Organization, we have high standards and apply them. (4.21,  $\downarrow 1\%$ , 96.7% positive response)
- Within my Functional Organization, our quality of work is not compromised to cut costs or to meet deadlines/schedules. (3.87,  $\uparrow 2\%$ , 89.1% positive response)

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were no survey write-in comments directly related to “GCWE High Standards” other than those related to the GCWE Topical Area “General Adverse Effects of Workload”. Information on those comments is provided in Section II.O of this Attachment.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE High Standards” cultural component is Highly Effective.

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.C GCWE Accountability for Performance**

This GCWE cultural component measures attributes related to appropriate accountability for performance.

DBNPS Site Composite Rating of GCWE Accountability for Performance

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Accountability for Performance” is 3.82, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating remained relatively steady since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, the single “GCWE Accountability for Performance” cultural attribute is perceived by the workforce to be an “Area of Strength”.

- Supervisors and managers hold individuals appropriately accountable for performance and results. (3.82, ↓0.5%, 91.4% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organizations provided particularly low ratings of the “GCWE Accountability for Performance” cultural component (i.e., ratings that are significantly lower than industry norms).

- Electrical Maintenance – 3.05
- Site Protection/Security – 3.35
- Records Management – 3.38

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 12 survey write-in comments directly related to “GCWE Accountability for Performance”. Of these, 1 was positive in nature and 11 were negative in nature. The majority of the negative comments identified instances where it was perceived that individuals were not being held appropriately accountable for their actions and/or performance. (4 of the negative comments were provided by personnel in the Site Protection/Security organization and 2 were provided by personnel in the Electrical Maintenance organization).

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Accountability for Performance” cultural component is Highly Effective.



**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.D GCWE Continuous Improvement**

This GCWE cultural component measures attributes related to continuous improvement of performance.

DBNPS Site Composite Rating of GCWE Continuous Improvement

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Continuous Improvement” is 4.03, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 3 of the individual “GCWE Continuous Improvement” cultural attributes showed nominal improvement since the 2006 Independent Assessment.

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 3 of the individual “GCWE Continuous Improvement” cultural attributes are perceived by the workforce to be “Areas of Strength”.

- Within my Work Group, we strive to improve our performance. (4.23, ↑3.5%, 96.8% positive response)
- Supervisors and managers encourage and support continuous improvement of our organizational systems and processes. (4.02, ↑3.6%, 95.5% positive response)
- We effectively utilize individual and group performance goals to achieve improvements. (3.92, ↑4.3%, 92.6% positive response)

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were very few (6) survey write-in comments related to “GCWE Continuous Improvement”. Of these, 2 were positive in nature, 2 were negative in nature and 2 were neutral in nature. There were no common or recurring themes.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Continuous Improvement” cultural component is Highly Effective.

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.E GCWE Conduct of Work**

This GCWE cultural component measures cultural attributes related to the conduct of work.

DBNPS Site Composite Rating of GCWE Conduct of Work

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Conduct of Work” is 4.01, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3.1% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 9 of the individual “GCWE Conduct of Work” cultural attributes either showed improvement or remained relatively steady since the 2006 Independent Assessment. Two attributes showed notable improvement ( $\geq 5\%$ ):

- We effectively plan our work, including consideration of conditions that could adversely affect human performance. (3.84,  $\uparrow 8\%$ , 90.7% positive response)
- We make conservative, well-balanced decisions. (4.19,  $\uparrow 5\%$ , 97.3% positive response)

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 9 of the individual “GCWE Conduct of Work” cultural attributes are perceived by the workforce to be “Areas of Strength”. Several of these are identified below:

- We obtain supervisory/management approval before taking action on matters beyond our normal work procedures and processes. (4.39,  $\uparrow 4.7\%$ , 98.5% positive response)
- We are self-critical and have questioning attitudes. (4.25,  $\uparrow 2\%$ , 98.0% positive response)
- We are quality conscious and pay attention to details. (4.22,  $\uparrow 1\%$ , 98.0% positive response)
- We conduct effective pre-job briefings to ensure that we are adequately prepared to do our work. (3.91,  $\downarrow 2\%$ , 93.0% positive response)
- We effectively review our work in progress through self-checking and/or peer checking (4.06,  $\uparrow 1\%$ , 96.9% positive response)

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 22 survey write-in comments related to “GCWE Conduct of Work”. Of these, 3 were positive in nature and 19 were negative in nature. The positive comments noted good pre-job briefs and ownership of work. The majority of the negative comments (13) related to work management and identified the following:

- Weaknesses in scheduling work. (4 comments)
- Lack of effective prioritization of work. (3 comments)
- Lack of proper outage preparation. (2 comments)
- General concerns about the work management process. (2 comments)

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

Personnel interviews indicate that the Engineering organization has made some progress in improving work prioritization and management for the engineering staff.

The Assessment Team observed maintenance work in the field performed by Electrical Maintenance, Mechanical Maintenance and I& C Maintenance. Work package quality and content (including OPEX) was assessed through observations of craft use of work packages and information obtained through personnel interviews. Pre-job briefs were observed to collect additional data related to usefulness and usability of the work packages when assigned to the craft.

- Overall work package quality did not impose undue challenges to the craft. Of the work packages reviewed, all were in a workable state and included necessary supporting documents.
  - All documents reviewed in the work packages (i.e., procedures, work plans, permits, etc.) were current and marked/stamped that they had been verified.
  - In one instance, the assignment of PRA risk was not clearly identified on the work package, but craft noticed it and informed supervision who promptly resolved the situation.
  - Operating experience was included in all packages reviewed and was relevant. One master craftsman indicated that on occasion the OPEX included is not perfectly aligned with the work being done, but the work group then interjects personal experience to enhance the brief. This was witnessed in a briefing for work on the under voltage relays.
- Pre-job briefing observations concluded that craft value the work packages and find them ‘more user friendly than before the head event’. There appears to be a higher focus on work package quality and content.
  - Interviews with work planning personnel indicated that expectations are clearer and have quality focus.
  - Interviews and observations indicate that craft ownership of the work management process appears to be good
  - In one pre-job briefing, the crew not only discussed the OPEX document provided, but also carried the dialogue to the next step and discussed how it would be applied to other aspects of their evolution.
- One observation was made where a support organization (Radiation Protection) was not aware of the need for their support. This situation was promptly resolved. Personnel interviews indicate that the frequency of occurrence of such situations has decreased, but direct ownership by the craft is occasionally required to remove such obstacles.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

**Assessment Team Conclusion**

Based on all available sources of information, the Assessment Team has concluded that the “GCWE Conduct of Work” cultural component is Highly Effective.

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.F GCWE Teamwork**

This GCWE cultural component measures attributes related to teamwork.

DBNPS Site Composite Rating of GCWE Teamwork

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Teamwork” is 3.96, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has improved by 2.1% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, the single “GCWE Teamwork” cultural attribute is perceived by the workforce to be an “Area of Strength”.

- We have appropriate levels of cooperation and teamwork between work groups. (3.96, ↑2%, 93.3% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organization provided a particularly low rating of the “GCWE Teamwork” cultural component (i.e., a rating that is significantly lower than industry norms).

- Site Protection/Security – 3.18

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 10 survey write-in comments directly related to “GCWE Teamwork”. Of these, 3 were positive in nature and 7 were negative in nature. The positive comments indicated that teamwork is good and improving. The negative comments indicated that teamwork between organizations could improve further. Two negative comments were provided by personnel in the Chemistry organization.

Personnel interviews and behavioral observations indicated that the DBNPS management team places a high value on collaboration and collegial assessment activities. Meetings of various types were observed and all demonstrated good discussion and interchange, indicating a supportive environment.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Teamwork” cultural component is Highly Effective.

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.G GCWE Employee Involvement**

This GCWE cultural component measures attributes related to employee involvement and engagement.

DBNPS Site Composite Rating of GCWE Employee Involvement

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Employee Involvement” is 3.86, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 3 of the individual “GCWE Employee Involvement” cultural attributes showed relatively steady ratings since the 2006 Independent Assessment.

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 3 of the individual “GCWE Employee Involvement” cultural attributes are perceived by the workforce to be “Areas of Strength”.

- Within my Functional Organization, we place importance on employee involvement and contribution. (3.88, ↑0.3%, 91.6% positive response)
- Supervisors and managers solicit feedback from the workforce to identify problems and opportunities to improve. (3.87, ↑2%, 89.1% positive response)
- Supervisors and managers address opportunities that are identified by the workforce to resolve problems and improve performance. (3.79, ↑1.4%, 89.9% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organizations provided particularly low ratings of the “GCWE Employee Involvement” cultural component (i.e., ratings that are significantly lower than industry norms).

- Electrical Maintenance – 3.16
- Site Protection/Security – 3.27

The following individual DBNPS Functional Organizations provided low ratings of the “GCWE Employee Involvement” cultural component (i.e., ratings that are lower than industry norms).

- Reactor Engineering – 3.38
- Other Maintenance – 3.38

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were very few (6) survey write-in comments directly related to “GCWE Employee Involvement”. Of these, 1 was positive in nature and 5 were negative in nature. The negative comments indicated that supervision and management are not sufficiently seeking out/listening to input from the workforce. (Two negative comments were from Site Protection/Security and two were from Mechanical Maintenance.)

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Employee Involvement” cultural component is Highly Effective.

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.H GCWE Environment of Dignity, Trust and Respect**

This GCWE cultural sub-metric component measures attributes related to an environment of dignity, trust and respect.

DBNPS Site Composite Rating of GCWE Dignity, Trust & Respect

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Dignity, Trust & Respect” is 3.93, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 3 of the individual “GCWE Dignity, Trust & Respect” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment. One attribute showed notable improvement ( $\geq 5\%$ ):

- Supervisors and managers regard individuals and their professional capabilities and experience as the organization’s most valuable asset. (3.68,  $\uparrow 6\%$ , 85.5% positive response)

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 3 of the individual “GCWE Dignity, Trust & Respect” cultural attributes are perceived by the workforce to be “Areas of Strength”.

- Within my Functional Organization, we have open communications and provide feedback. (4.08,  $\uparrow 0.4\%$ , 92.4% positive response)
- Within my Functional Organization, we have an environment where individuals feel safe to voice their opinions and ideas. (4.03,  $\downarrow 1.6\%$ , 90.2% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organization provided a particularly low rating of the “GCWE Dignity, Trust & Respect” cultural component (i.e., a rating that is significantly lower than industry norms).

- Site Protection/Security – 3.18

The following individual DBNPS Functional Organizations provided low ratings of the “GCWE Dignity, Trust & Respect” cultural component (i.e., ratings that are lower than industry norms).

- Electrical Maintenance – 3.38
- Nuclear Warehousing – 3.44

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 8 survey write-in comments directly related to “GCWE Dignity, Trust & Respect”. Of these, 4 were positive in nature and 5 were negative in nature. There were no common or recurring themes.

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GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Dignity, Trust & Respect” cultural component is Highly Effective.



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GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.I GCWE General Communications**

This GCWE cultural component measures attributes related to general communications on key topics of interest to the workforce.

DBNPS Site Composite Rating of GCWE General Communications

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE General Communications” is 3.76, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 5.9% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 3 of the individual “GCWE General Communications” cultural attributes showed notably improved ratings ( $\geq 5\%$ ) since the 2006 Independent Assessment:

- Communications regarding priorities used in decision-making and resource allocation. (3.67,  $\uparrow 7\%$ , 87.0% positive response)
- Communications regarding annual performance goals and objectives. (3.88,  $\uparrow 6\%$ , 93.2% positive response)
- Communications regarding future plans for the Site (3.75,  $\uparrow 5\%$ , 90.4% positive response)

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 3 of the individual “GCWE General Communications” cultural attributes are perceived by the workforce to be “Areas of Strength”.

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were very few (3) survey write-in comments directly related to “GCWE General Communications”. Of these, 1 was positive in nature and 2 were negative in nature. There were no common or recurring themes.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE General Communications” cultural component is Highly Effective.

**COIA-SC-2007 ATTACHMENT 3**  
**GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.J GCWE Change Management**

This GCWE cultural component measures cultural attributes related to the management of change.

DBNPS Site Composite Rating of GCWE Change Management

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Change Management” is 3.44, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2.1% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

All 3 of the individual “GCWE Change Management” cultural attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment.

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 3 of the individual “GCWE Change Management” cultural attributes are perceived by the workforce to be “Areas of Strength”.

- Within my Functional Organization, we are effective in planning and implementing changes in the way we do business. (3.44, ↑1.9%, 82.5% positive response)
- Supervisors and managers obtain workforce input before implementing significant changes. (3.37, ↑0.8%, 78.0% positive response)
- Supervisors and managers effectively communicate the reasons for changes in programs, policies and procedures. (3.52, ↑4.6%, 84.4% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organization provided a particularly low rating of the “GCWE Change Management” cultural component (i.e., a rating that is significantly lower than industry norms).

- Electrical Maintenance – 2.64

The following individual DBNPS Functional Organizations provided low ratings of the “GCWE Change Management” cultural component (i.e., ratings that are lower than industry norms).

- Shift Operations – 2.89
- Site Protection/Security – 3.01

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were only 2 survey write-in comments directly related to “GCWE Change Management”. Of these, both were negative in nature. There were no common or recurring themes.

“Change Management” was the subject of a significant amount of attention in the 2006 write-in comments and personnel interviews. It is noteworthy that this GCWE cultural component received very little comment in 2007.

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GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Observations & Suggestions

Commercial nuclear power plant industry norms for “Change Management” are low, reflecting the fact that this is an industry-wide area in need of continued attention. On a relative basis, the DBNPS Site Composite numerical ratings of all three of the “Change Management” attributes are among the ten lowest rated attributes at DBNPS. Continued attention to this area is suggested.

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Change Management” cultural component is Effective.

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**GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.K GCWE Personnel Development & Training**

This GCWE cultural component measures attributes related to personnel development and training.

DBNPS Site Composite Rating of GCWE Personnel Development & Training

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Personnel Development & Training” is 3.72, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 6.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

5 of the 6 individual “GCWE Personnel Development & Training” cultural attributes showed improved or relatively steady ratings since the 2006 Independent Assessment. Of these, 1 showed significant improvement ( $\geq 10\%$ ) and 2 showed notable improvement ( $\geq 5\%$ ):

- We are effective in developing people through coaching, training and mentoring. (3.61,  $\uparrow 14\%$ , 85.4% positive response)
- Supervisors and managers observe the conduct of work in the field to reinforce standards and expectations. (3.99,  $\uparrow 6.5\%$ , 93.5% positive response)
- We have effective training on the technical and functional aspects of our jobs. (3.68,  $\uparrow 6\%$ , 86.8% positive response)

One attribute showed a nominally declined rating ( $\geq 2.5\%$ ) since the 2006 Independent Assessment:

- Supervisors and managers are personally involved in ensuring that the workforce receives high quality training. (3.61,  $\downarrow 3.3\%$ , 83.1% positive response)

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 6 of the individual “GCWE Personnel Development & Training” cultural attributes are perceived by the workforce to be “Areas of Strength”.

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organization provided a particularly low rating of the “GCWE Personnel Development & Training” cultural component (i.e., a rating that is significantly lower than industry norms).

- Electrical Maintenance – 2.72

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 17 survey write-in comments directly related to “GCWE Personnel Development & Training”. Of these, 4 were positive in nature and 13 were negative in nature. The positive comments identified good training and mentoring. The majority of the negative comments (10) focused on perceived needs for improvements in training as follows:

- The need for miscellaneous improvements including training/qualification plans, using current equipment in training, offering continuous training to all employees, and more diverse OJT work assignments. (5 comments)
- Difficulties in obtaining needed training for qualifications. (3 comments)
- The need for more rapid training of new personnel. (2 comments)

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Personnel interviews indicated that:

- Maintenance has a high population of apprentices and conditional journeymen who are not fully trained or qualified.
- Advanced qualifications remain incomplete for some experienced master and lead electricians. This limits assignment of work and does not allow for optimum opportunities to mentor and train the apprentices and conditional journeymen.
- Craft personnel feel that qualification timeliness is preventing advanced qualifications which directly affects promotional series to master grade
- The above-mentioned factors create a belief that management does not support the training and qualification effort. This has been assumed by many to be a budgetary issue.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Finding

One Area in Need of Attention has been identified:

ANA-G-1: There is a need for increased management attention and focus on providing training and qualification opportunities for Maintenance craft personnel. This is a significant source of frustration within the Maintenance organizations. It appears that workload/resource management is at the root of this concern.

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Personnel Development & Training” cultural component is Effective.

**COIA-SC-2007 ATTACHMENT 3  
GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.L GCWE Performance Recognition & Reward**

This GCWE cultural sub-metric measures cultural attributes related to recognition and reward of performance.

DBNPS Site Composite Rating of GCWE Performance Recognition & Reward

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Performance Recognition & Reward” is 3.48, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 16% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, the single “GCWE Performance Recognition & Reward” cultural attribute is perceived by the workforce to be an “Area of Strength”.

- Within my Functional Organization, we are effective in recognizing and rewarding performance and accomplishments. (3.48, ↑16%, 80.2% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organization provided a particularly low rating of the “GCWE Performance Recognition & Reward” cultural component (i.e., a rating that is significantly lower than industry norms).

- Electrical Maintenance – 2.18

The following individual DBNPS Functional Organizations provided low ratings of the “GCWE Performance Recognition & Reward” cultural component (i.e., ratings that are lower than industry norms).

- Shift Operations – 2.96
- Mechanical Maintenance – 3.00
- Reactor Engineering – 3.00

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 18 survey write-in comments directly related to “GCWE Performance Recognition & Reward”. Of these, 5 were positive in nature and 13 were negative in nature.

The positive comments cited good recognition of accomplishments. The negative comments indicated the need for better recognition of performance improvements, high levels of performance, and generally good work. About half (6) of the negative comments indicated the perceived need for greater “rewards” associated with recognition. It is noteworthy that there are far fewer negative comments related to this cultural component than there were in the 2006 Independent Assessment.

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GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Observations & Suggestions

In 2006, this GCWE cultural component was identified as a GCWE Area for Improvement. At the time of the 2006 Independent Assessment, the DBNPS organization was still reacting to the manner in which the 2006 mid-year performance appraisals had been conducted and how that was perceived to have impacted post-RFO14 bonuses/overtime compensation awards. The 16% numerical rating improvement from 2006 to 2007 is indicative of how important a consistent approach in this area can be.

Commercial nuclear power plant industry norms for “GCWE Performance Recognition & Reward” are low, reflecting the fact that this is an industry-wide area in need of continued attention. On a relative basis, the DBNPS Site Composite numerical rating of the “GCWE Performance Recognition & Reward” attribute is one of the ten lowest rated attributes at DBNPS. Continued attention to this area is suggested.

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Performance Recognition & Reward” cultural component is Effective.

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**GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.M GCWE Performance Appraisal**

This GCWE cultural component measures attributes related to personnel performance appraisals.

DBNPS Site Composite Rating of GCWE Performance Appraisal

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Performance Appraisal” is 3.46, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 17% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The one individual “GCWE Performance Appraisal” cultural attribute with 2006-2007 trending information available showed very significant improvement since the 2006 Independent Assessment:

- Within my Functional Organization, we conduct timely and effective personnel performance appraisals. (3.46, ↑17%, 79.8% positive response)

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 3 of the individual “GCWE Performance Appraisal” cultural attributes are perceived by the workforce to be “Areas of Strength”.

- I believe that my performance and accomplishments are measured objectively. (3.60, n/a, 84.7% positive response)
- I believe that my performance and accomplishments are appropriately considered in my performance reviews. (3.47, n/a, 81.4% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organizations provided particularly low ratings of the “GCWE Performance Appraisal” cultural component (i.e., ratings that are significantly lower than industry norms).

- Electrical Maintenance – 2.35
- FIN Maintenance – 2.73

The following individual DBNPS Functional Organizations provided low ratings of the “GCWE Performance Appraisal” cultural component (i.e., ratings that are lower than industry norms).

- Shift Operations – 2.80
- Nuclear Mechanical/Structural Design Engineering – 2.92
- Nuclear Technical Training – 3.00
- Reactor Engineering – 3.00
- Site Protection/Security – 3.02

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were very few (6) survey write-in comments directly related to “GCWE Performance Appraisal”. Of these, all 6 were negative in nature. 2 comments indicated concerns with performance appraisals being based upon generalized site performance versus individual



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performance. It is noteworthy that there were far fewer negative write-in comments related to this cultural component than there were in the 2006 Independent Assessment.

Personnel interviews and documentation reviews indicate that the concerns regarding the manner in which 2006 mid-year performance appraisals were conducted have been ameliorated by the manner in which the 2006 year-end and 2007 mid-year performance appraisals were conducted.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Assessment Team Observations & Suggestions

In 2006, this GCWE cultural component was identified as a GCWE Area for Improvement. At the time of the 2006 Independent Assessment, the DBNPS organization was still reacting to the manner in which the 2006 mid-year performance appraisals had been conducted and how that was perceived to have impacted post-RFO14 bonuses/overtime compensation awards. The 17% numerical rating improvement from 2006 to 2007 is indicative of how important a consistent approach in this area can be.

Commercial nuclear power plant industry norms for “GCWE Performance Appraisal” are low, reflecting the fact that this is an industry-wide area in need of continued attention. On a relative basis, the DBNPS Site Composite numerical ratings of two of the three “GCWE Performance Appraisal” attributes are among the ten lowest rated attributes at DBNPS. Continued attention to this area is suggested.

Assessment Team Conclusion

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Performance Appraisal” cultural component is Effective.

**COIA-SC-2007 ATTACHMENT 3**  
**GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.N GCWE Overall Personal Satisfaction and Morale**

This GCWE cultural component measures attributes related to personal satisfaction and morale.

DBNPS Site Composite Rating of GCWE Overall Personal Satisfaction & Morale

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE Overall Personal Satisfaction & Morale” is 3.65, which places DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 8.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, the single “GCWE Overall Personal Satisfaction & Morale” cultural attribute is perceived by the workforce to be an “Area of Strength”.

- Overall personal satisfaction and morale as a worker, based on such factors as my personal growth opportunities, rewards and the professional working environment. (3.65, ↑8%, 83.6% positive response)

**INDIVIDUAL FUNCTIONAL ORGANIZATIONS WITH PARTICULARLY LOW RATINGS**

The following individual DBNPS Functional Organization provided a particularly low rating of the “GCWE Overall Personal Satisfaction & Morale” cultural component (i.e., a rating that is significantly lower than industry norms).

- Reactor Engineering – 2.75

The following individual DBNPS Functional Organizations provided low ratings of the “GCWE Overall Personal Satisfaction & Morale” cultural component (i.e., ratings that are lower than industry norms).

- Electrical Maintenance – 2.86
- Nuclear ALARA/RP Services – 3.00

**ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 44 survey write-in comments directly related to “GCWE Overall Personal Satisfaction & Morale”. Of these, 16 were positive in nature and 28 were negative in nature. The positive comments indicated that the flexible work schedule that was offered during the summer was extremely well received and appreciated (14 comments). The negative comments indicated that:

- There are frustrations over unpaid overtime. (9 comments)
- There are perceived needs for better pay, keeping up with the cost of living and benefits. (6 comments)

Personnel interviews provided similar information as that received through the survey write-in comments.

**ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE Overall Personal Satisfaction & Morale” cultural component is Effective.

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**GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

**II.O GCWE General Adverse Impacts of Workload**

This GCWE-related Topical Area measures cultural attributes related to the adverse impacts of workload.

DBNPS Site Composite Rating of GCWE General Adverse Impacts of Workload

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “GCWE General Adverse Impacts of Workload” is 3.66, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 8.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The 2007 Independent Assessment workforce survey included a special “inherent trend” question designed to obtain workforce input on the extent to which improvements in the effectiveness of prioritizing and managing workload had occurred within their Functional Organization during the past year. The DBNPS Site Composite rating of this question indicates that “Notable Improvement” had occurred.

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organization provided a low rating of the “GCWE General Adverse Impacts of Workload” topical area (i.e., a rating that is lower than industry norms).

- Operations Training – 2.96

The following individual DBNPS Functional Organizations provided ratings of the “GCWE General Adverse Impacts of Workload” topical area that, while acceptable based on industry norms, are noteworthy:

- Other Maintenance – 3.07
- Electrical Maintenance – 3.11

Of the 41 individual DBNPS Functional Organizations:

- 25 provided ratings that represent significant improvement since the 2006 Assessment
- 3 provided ratings that represent notable improvement since the 2006 Assessment
- 4 provided ratings that represent nominal improvement since the 2006 Assessment
- 2 provided ratings that were relatively steady since the 2006 Assessment
- 1 provided ratings that represent nominal decline since the 2006 Assessment
- 3 provided ratings that represent notable decline since the 2006 Assessment
- 3 provided ratings that represent significant decline since the 2006 Assessment

Organizations providing ratings showing the most significant improving trends include:

- Reactor Engineering (↑ 53%)
- Nuclear Warehousing (↑ 52%)
- Nuclear Technical Training (↑ 42%)
- Rapid Response Engineering (↑ 33%)
- Nuclear Plant Systems Engineering (↑ 27%)
- I&C Maintenance (↑ 25%)

## **COIA-SC-2007 ATTACHMENT 3 GENERAL CULTURE & WORK ENVIRONMENT RESULTS**

Organizations providing ratings showing the most significant declining trends include:

- Electrical Maintenance (↓ 16%)
- Other Maintenance (↓ 12%)
- Nuclear Mechanical/Structural Engineering (↓ 10%)

The 2007 Independent Assessment workforce survey included a special “inherent trend” question designed to obtain workforce input on the extent to which improvements in the effectiveness of prioritizing and managing workload had occurred within their Functional Organization during the past year. The following individual DBNPS Functional Organizations provided ratings of this question that indicate Lack of Improvement:

- Engineering Analysis – Very Significant Lack of Improvement
- Nuclear Mechanical/Structural Engineering – Significant Lack of Improvement
- Electrical Maintenance – Notable Lack of Improvement
- Nuclear ALARA/RP Services – Notable Lack of Improvement

### **ADDITIONAL INSIGHTS FROM SURVEY WRITE-IN COMMENTS, PERSONNEL INTERVIEWS, BEHAVIORAL OBSERVATIONS AND DOCUMENTATION REVIEWS**

There were 32 survey write-in comments directly related to “GCWE General Adverse Impacts of Workload”. Of these, 1 was positive in nature and 31 were negative in nature. The negative comments indicated that:

- That staffing is considered to be insufficient to meet workload demands and many organizations feel overworked. These comments were offered by individuals from 21 different organizations. (25 comments)
- That poor work prioritization is contributing to the workload problem. (3 comments)

Survey write-in comments and personnel interviews indicate that several DBNPS organizations continue to be stressed with staffing/attrition issues or workload/work management issues that are affecting either their ability to simultaneously accomplish “competing” objectives (e.g., both backlog reduction and training & qualification in Electrical Maintenance) or their ability to accomplish assigned work without extensive overtime (e.g., Operations Training, Shift Operations, Operations Services).

### **ASSESSMENT TEAM FINDINGS AND CONCLUSIONS**

#### **Assessment Team Observations & Suggestions**

In the 2006 Independent Assessment, this topical area was identified as an Area in Need of Attention due to the large number (16) of individual DBNPS Functional Organizations that provided ratings of “Not Effective” or “Marginally Effective”. As indicated by the 2007 workforce survey results, this situation has improved significantly. Continued diligence in this area is suggested. Additional challenges should be anticipated due to retirements and other attrition.

#### **Assessment Team Conclusion**

Based primarily on the workforce survey results, the Assessment Team has concluded that the “GCWE General Adverse Impacts of Workload” topical area is Effective.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**I. EXECUTIVE SUMMARY**

**Introduction**

The 2007 Independent Assessment of the DBNPS NSC/SCWE included an assessment of the following two cultural components related to Leadership, Management and Supervisory Behaviors & Practices (LMS). These cultural components were included because they are indirectly related to the SCWE. Low ratings may be leading indicators of potential future challenges to the SCWE.

- Quality of Communications with the Workforce
- Environment of Trust and Mutual Respect

The Quality of Communications component includes the following three cultural sub-components:

- Quality of Supervisor Communications with the Workforce
- Quality of Functional Organization Management Communications with the Workforce
- Quality of Site Senior Management Communications with the Workforce

The Environment of Trust and Mutual Respect component includes the following three cultural sub-components:

- Trust and Mutual Respect Between Supervision and the Workforce
- Trust and Mutual Respect Between Functional Organization Management and the Workforce
- Trust and Mutual Respect Between Site Senior Management and the Workforce

The 2007 DBNPS NSC Workforce Survey provided participants two opportunities to provide write-in comments. Approximately 20% of the write-in comments received were related to some aspect of LMS, with the vast majority focusing on “trust” and “confidence” issues. A summary of the common or recurring themes derived from an analysis of those write-in comments is provided at the end of this Attachment.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4  
LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**Summary of Results**

Overall Quality of Communications with the Workforce

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the Overall Quality of Communications with the Workforce at DBNPS is Highly Effective. As shown in Table 4-1 below, the Assessment Team has concluded that all three of the cultural sub-components of Quality of Communications with the Workforce are Highly Effective.

**Table 4-1**

<b>CULTURAL COMPONENT</b>	<b>DBNPS SITE COMPOSITE 2007 RATING</b>
<b>QUALITY OF COMMUNICATIONS WITH THE WORKFORCE</b>	<b>HIGHLY EFFECTIVE</b>
Supervisor Communications with the Workforce	Highly Effective
Functional Organization Management Communications with the Workforce	Highly Effective
Site Senior Management Communications with the Workforce	Highly Effective

Overall Environment of Trust & Mutual Respect

Based on the integration of information obtained through five diverse sources of assessment input, the Assessment Team has concluded that the Overall Environment of Trust & Mutual Respect at DBNPS is Highly Effective. As shown in Table 4-2 below, the Assessment Team has concluded that all three of the cultural sub-components of Quality of Communications with the Workforce are Highly Effective.

**Table 4-2**

<b>CULTURAL COMPONENT</b>	<b>DBNPS SITE COMPOSITE 2007 RATING</b>
<b>ENVIRONMENT OF TRUST AND MUTUAL RESPECT</b>	<b>HIGHLY EFFECTIVE</b>
Between Supervision and the Workforce	Highly Effective
Between FO Management and the Workforce	Highly Effective
Between Site Senior Management and the Workforce	Highly Effective

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4  
LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**LMS Findings**

LMS Areas of Strength

Numerous Areas of Strength were identified. Representative examples are identified in subsequent sections of this Attachment, which address each of the LMS cultural components individually.

LMS Areas for Improvement

None were identified.

LMS Areas in Need of Attention

One LMS-related Area in Need of Attention was identified:

ANA-G-2: The Site Protection/Security organization has been identified as a localized Area in Need of Attention based on the integration of all sources of assessment input. This organization provided notably declined survey ratings for the Overall GCWE and relatively low/significantly declined LMS ratings related to Management.

The survey write-in comments and the personnel interviews confirmed that GCWE/LMS-related issues within this organization warrant additional management attention.

LMS Opportunities for Continued Improvement (OFI)

One LMS-related Opportunity for Continued Improvement was identified based on information obtained through the survey write-in comments and the personnel interviews:

- OFI-L-1: During the past year, there have been a significant number of personnel changes in the Maintenance supervisory ranks. As a result, within the Maintenance organizations, there is a continuing need to:
- Ensure alignment within the supervisory ranks on maintaining a “quality first” approach to work.
  - Promote and support leadership development for the supervisory ranks to ensure positive working relationships

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**II. QUALITY OF COMMUNICATIONS RESULTS**

**II.A Overall Rating**

**SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION**

DBNPS Site Composite Rating of the Overall Quality of Communications with the Workforce

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Overall Quality of Communications with the Workforce” is 3.90, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Overall Quality of Communications with the Workforce” rating is based upon the integration of numerical ratings of 7 discrete survey questions/cultural attributes. All 7 of these attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms. Representative “Areas of Strength” are identified in subsequent sections of this Attachment, which address each of the “Quality of Communications with the Workforce” components individually.

2006-2007 trending information is available for all 7 of the “Quality of Communications with the Workforce” cultural attributes. All of these attributes showed either nominally improved or relatively steady ratings since the 2006 Independent Assessment:

- 5 showed nominal improvement ( $\geq 2.5\%$ )
- 2 were relatively steady

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organizations provided relatively low ratings of the “Overall Quality of Communications with the Workforce” that, while acceptable based on industry norms, are noteworthy:

- Electrical Maintenance: 3.32
- Reactor Engineering: 3.35
- Site Protection/Security: 3.39

Organizations showing the most significant declining 2006-2007 trends in “Overall Quality of Communications with the Workforce” ratings include:

- Nuclear Procurement Engineering: ( $\downarrow 13\%$ )
- Human Resources/Comm./Leadership O&D: ( $\downarrow 11\%$ )
- Records Management: ( $\downarrow 11\%$ )

Organizations showing the most significant improving 2006-2007 trends in “Overall Quality of Communications with the Workforce” ratings include:

- Nuclear Plant Systems Engineering: ( $\uparrow 47\%$ )
- Nuclear Warehousing: ( $\uparrow 40\%$ )
- Engineering Programs: ( $\uparrow 22\%$ )
- Chemistry: ( $\uparrow 21\%$ )
- Nuclear Technical Training: ( $\uparrow 21\%$ )



**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**II.B Quality of Supervisor Communications with the Workforce**

DBNPS Site Composite Rating of Quality of Supervisor Communications with the Workforce

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Quality of Supervisor Communications with the Workforce” is 4.12, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating remained relatively steady since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Quality of Supervisor Communications with the Workforce” rating is based upon the integration of numerical ratings of 2.5 discrete survey questions/cultural attributes<sup>1</sup>. All of these attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms:

- My immediate supervisor is straightforward, open and honest in his/her communications and interactions with the workforce. (4.22, ↑1.6%, 94.6% positive response)
- My immediate supervisor communicates sufficiently with the workforce and keeps workers adequately informed. (4.16, ↑2.9%, 94.8% positive response)

2006-2007 trending information is available for all of the “Quality of Supervisor Communications with the Workforce” cultural attributes. All of these attributes showed either nominally improved or relatively steady ratings since the 2006 Independent Assessment:

- 1.5 showed nominal improvement ( $\geq 2.5\%$ )
- 1 was relatively steady

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organizations provided low ratings of the “Quality of Supervisor Communications with the Workforce,” which represent localized Areas in Need of Attention:

- Reactor Engineering: 3.26
- Mechanical Maintenance: 3.33

The following individual DBNPS Functional Organization provided a relatively low rating of the “Quality of Supervisor Communications with the Workforce”, which represents a localized Opportunity for Improvement:

- Electrical Maintenance: 3.49

Organizations showing the most significant declining 2006-2007 trends in “Quality of Supervisor Communications with the Workforce” ratings include:

- Nuclear Procurement Engineering: (↓19%)
- Records Management: (↓13%)
- Outage Management: (↓12%)
- Shift Operations: (↓11%)
- Mechanical Maintenance: (↓11%)

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<sup>1</sup> One survey question/cultural attributes is shared between “Supervisor Communications” and “Functional Organization Manager Communications.”

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

Organizations showing the most significant improving 2006-2007 trends in “Quality of Supervisor Communications with the Workforce” ratings include:

- Nuclear Plant Systems Engineering: (↑ 40%)
- Chemistry: (↑ 24%)
- Nuclear Warehousing: (↑ 22%)
- Maintenance Services: (↑ 21%)

**II.B Quality of Functional Organization Management Communications with the Workforce**

DBNPS Site Composite Rating of Quality of Functional Organization Management Communications with the Workforce

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Quality of Functional Organization Management Communications with the Workforce” is 3.76, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Quality of Functional Organization Management Communications with the Workforce” rating is based upon the integration of numerical ratings of 2.5 discrete survey questions/cultural attributes<sup>2</sup>. All of these attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

- Management in my Functional Organization is straightforward, open and honest in their communications and interactions with the workforce.  
(3.83, ↑2.9%, 89.9% positive response)
- Management in my Functional Organization communicates sufficiently with the workforce and keeps workers adequately informed.  
(3.76, ↑2.8%, 89.7% positive response)

While considered an “Area of Strength” based on benchmarking against industry norms, the following cultural attribute received a relatively low numerical rating:

- Supervisors and managers in my Functional Organization effectively communicate the reasons for changes in programs, policies and procedures.  
(3.52, ↑4.6%, 84.4% positive response)

2006-2007 trending information is available for all of the “Quality of Functional Organization Management Communications with the Workforce” cultural attributes. All of these attributes showed nominally improvement (≥2.5%) since the 2006 Independent Assessment:

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<sup>2</sup> One survey question/cultural attributes is shared between “Supervisor Communications” and “Functional Organization Manager Communications.”

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
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**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organization provided a particularly low rating of the “Quality of Functional Organization Management Communications with the Workforce”, which represents a localized Area in Need of Attention:

- Site Protection/Security: 2.91

The following individual DBNPS Functional Organization provided a relatively low rating of the “Quality of Functional Organization Management Communications with the Workforce” that, while acceptable based on industry norms, is noteworthy:

- Shift Operations: 3.26

Organizations showing the most significant declining 2006-2007 trends in “Quality of Functional Organization Management Communications with the Workforce” ratings include:

- Human Resources/Comm./Leadership O&D (↓17%)
- Records Management: (↓16%)
- Outage Management: (↓13%)
- Nuclear Procurement Engineering: (↓12%)
- Davis Besse Supply Chain: (↓12%)
- Site Protection/Security: (↓10%)

Organizations showing the most significant improving 2006-2007 trends in “Quality of Functional Organization Management Communications with the Workforce” ratings include:

- Nuclear Warehousing: (↑ 63%)
- Nuclear Plant Systems Engineering: (↑ 60%)
- Business Services: (↑ 45%)
- Operations Training: (↑ 38%)
- Nuclear Procedures Control: (↑ 36%)
- Training Services: (↑ 32%)

**II.C Quality of Site Senior Management Communications with the Workforce**

**DBNPS Site Composite Rating of Quality of Site Senior Management Communications with the Workforce**

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Quality of Site Senior Management Communications with the Workforce” is 3.80, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3.6% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Quality of Site Senior Management Communications with the Workforce” rating is based upon the integration of numerical ratings of 2 discrete survey questions/cultural attributes. Both of these attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

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- Site senior management is straightforward, open and honest in their communications and interactions with the workforce.  
(3.80, ↑3.3%, 91.0% positive response)
- Site senior management communicates sufficiently with the workforce and keeps workers adequately informed.  
(3.80, ↑1.2%, 91.8% positive response)

2006-2007 trending information is available for both of the “Quality of Site Senior Management Communications with the Workforce” cultural attributes. One of these attributes showed nominal improvement ( $\geq 2.5\%$ ) since the 2006 Independent Assessment and one remained relatively steady.

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organizations provided relatively low ratings of the “Quality of Site Senior Management Communications with the Workforce” that, while acceptable based on industry norms, are noteworthy:

- Shift Operations: 3.11
- Electrical Maintenance: 3.11

Organizations showing the most significant declining 2006-2007 trends in “Quality of Site Senior Management Communications with the Workforce” ratings include:

- Human Resources/Comm./Leadership O&D: (↓9%)
- Electrical Maintenance: (↓8%)
- Nuclear Procurement Engineering: (↓6%)
- Shift Operations: (↓5%)

Organizations showing the most significant improving 2006-2007 trends in “Quality of Site Senior Management Communications with the Workforce” ratings include:

- Nuclear Warehousing: (↑ 46%)
- Nuclear Plant Systems Engineering: (↑ 42%)
- Engineering Programs: (↑ 27%)
- Rapid Response Engineering: (↑ 21%)

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4  
LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**III. ENVIRONMENT OF TRUST AND MUTUAL RESPECT DETAILS**

**III.A Overall Environment of Trust and Mutual Respect**

**SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION**

DBNPS Site Composite Rating of the Overall Environment of Trust and Mutual Respect

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Overall Environment of Trust and Mutual Respect” is 3.88, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 2.6% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Overall Environment of Trust and Mutual Respect” rating is based upon the integration of numerical ratings of 12 discrete survey questions/cultural attributes. All 12 of these are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms. Representative “Areas of Strength” are identified in subsequent sections of this Attachment, which address each of the “Overall Environment of Trust and Mutual Respect” components individually.

2006-2007 trending information is available for all 12 of the “Overall Environment of Trust and Mutual Respect” cultural attributes. All of these attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment:

- 1 showed notable improvement ( $\geq 5\%$ )
- 6 showed nominal improvement ( $\geq 2.5\%$ )
- 5 were relatively steady

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organizations provided relatively low ratings of the “Overall Environment of Trust and Mutual Respect” that, while acceptable based on industry norms, are noteworthy:

- Electrical Maintenance: 3.30
- Reactor Engineering: 3.31

Organizations showing the most significant declining 2006-2007 trends in “Overall Environment of Trust and Mutual Respect” ratings include:

- Human Resources/Comm./Leadership O&D: ( $\downarrow 11\%$ )
- Nuclear Procurement Engineering: ( $\downarrow 10\%$ )
- Records Management: ( $\downarrow 10\%$ )

Organizations showing the most significant improving 2006-2007 trends in “Overall Environment of Trust and Mutual Respect” ratings include:

- Nuclear Plant Systems Engineering: ( $\uparrow 42\%$ )
- Nuclear Warehousing: ( $\uparrow 40\%$ )
- Engineering Programs: ( $\uparrow 28\%$ )
- Nuclear Technical Training: ( $\uparrow 22\%$ )
- Chemistry: ( $\uparrow 20\%$ )

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**III.B Environment of Trust & Mutual Respect Between Supervision and the Workforce**

DBNPS Site Composite Rating of the Environment of Trust & Mutual Respect between Supervision and the Workforce

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Environment of Trust & Mutual Respect between Supervision and the Workforce” is 4.19, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.7% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Environment of Trust & Mutual Respect between Supervision and the Workforce” rating is based upon the integration of numerical ratings of 4 discrete survey questions/cultural attributes. All of these attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

- My immediate supervisor treats me with dignity and respect.  
(4.25, ↑2.1%, 95.5% positive response)
- My immediate supervisor is sufficiently visible and accessible.  
(4.22, ↑1.4%, 95.8% positive response)
- My immediate supervisor is receptive to input and feedback.  
(4.15, ↑1.7%, 92.9% positive response)
- My immediate supervisor has earned my trust.  
(4.15, ↑1.8%, 92.6% positive response)

2006-2007 trending information is available for all 4 of the “Environment of Trust & Mutual Respect between Supervision and the Workforce” cultural attributes. All of these attributes showed relatively steady ratings since the 2006 Independent Assessment:

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organization provided a low rating of the “Environment of Trust & Mutual Respect between Supervision and the Workforce”, which represents a localized Area in Need of Attention:

- Reactor Engineering: 3.25

The following individual DBNPS Functional Organization provided a relatively low rating of the “Environment of Trust & Mutual Respect between Supervision and the Workforce”, which represents a localized Opportunity for Improvement:

- Mechanical Maintenance: 3.48

Organizations showing the most significant declining 2006-2007 trends in “Environment of Trust & Mutual Respect between Supervision and the Workforce” ratings include:

- Nuclear Procurement Engineering: (↓16%)
- Records Management: (↓12%)
- Human Resources/Comm./Leadership O&D: (↓12%)

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

Organizations showing the most significant improving 2006-2007 trends in “Environment of Trust & Mutual Respect between Supervision and the Workforce” ratings include:

- Nuclear Warehousing: (↑ 33%)
- Nuclear Plant Systems Engineering: (↑ 32%)
- FIN Maintenance: (↑ 26%)
- Chemistry: (↑ 24%)
- Nuclear Technical Training: (↑ 23%)
- Engineering Programs: (↑ 21%)
- Projects: (↑ 21%)

**III.C Environment of Trust & Mutual Respect Between Functional Organization Management and the Workforce**

DBNPS Site Composite Rating of the Environment of Trust & Mutual Respect between Functional Organization Management and the Workforce

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Environment of Trust & Mutual Respect between Functional Organization Management and the Workforce” is 3.79, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 3.3% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Environment of Trust & Mutual Respect between Functional Organization Management and the Workforce” rating is based upon the integration of numerical ratings of 4 discrete survey questions/cultural attributes. All of these attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

- Management in my Functional Organization treats the workforce with dignity and respect. (3.86, ↑2.6%, 89.9% positive response)
- Management in my Functional Organization is sufficiently visible and accessible. (3.79, ↑3.8%, 91.5% positive response)
- Management in my Functional Organization is receptive to input and feedback. (3.77, ↑2.9%, 88.8% positive response)
- Management in my Functional Organization has earned my trust. (3.76, ↑4.6%, 85.8% positive response)

2006-2007 trending information is available for all 4 of the “Environment of Trust & Mutual Respect between Functional Organization Management and the Workforce” cultural attributes. All of these attributes showed nominally improved ratings ( $\geq 2.5\%$ ) since the 2006 Independent Assessment.

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organization provided a low rating of the “Environment of Trust & Mutual Respect between Functional Organization Management and the Workforce”, which represents a localized Area in Need of Attention:

- Site Protection/Security: 2.89

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**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

Organizations showing the most significant declining 2006-2007 trends in “Environment of Trust & Mutual Respect between Functional Organization Management and the Workforce” ratings include:

- Records Management: (↓20%)
- Human Resources/Comm./Leadership O&D: (↓18%)
- Davis Besse Supply Chain: (↓15%)
- Nuclear Electrical Systems Engineering: (↓11%)

Organizations showing the most significant improving 2006-2007 trends in “Environment of Trust & Mutual Respect between Functional Organization Management and the Workforce” ratings include:

- Nuclear Plant Systems Engineering: (↑ 52%)
- Nuclear Warehousing: (↑ 43%)
- Operations Training: (↑ 42%)
- Business Services: (↑ 39%)
- Training Services: (↑ 38%)
- Engineering Programs: (↑ 34%)
- Nuclear Technical Training: (↑ 30%)

**III.D Environment of Trust & Mutual Respect Between Site Senior Management and the Workforce**

DBNPS Site Composite Rating of the Environment of Trust & Mutual Respect between Site Senior Management and the Workforce

Based on the 2007 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Environment of Trust & Mutual Respect between Site Senior Management and the Workforce” is 3.74, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 4.2% since the 2006 Independent Assessment. This rating is characterized as Highly Effective.

The “Environment of Trust & Mutual Respect between Site Senior Management and the Workforce” rating is based upon the integration of numerical ratings of 4 discrete survey questions/cultural attributes. All of these attributes are characterized as perceived “Areas of Strength”, based upon numerical ratings that are in the top quartile of the industry as benchmarked against commercial nuclear plant norms.

- Site senior management treats the workforce with dignity and respect.  
(3.80, ↑4.4%, 90.1% positive response)
- Site senior management has earned my trust.  
(3.76, ↑6.5%, 87.8% positive response)
- Site senior management is receptive to input and feedback.  
(3.71, ↑3.5%, 88.9% positive response)
- Site senior management is sufficiently visible and accessible.  
(3.70, ↑2.3%, 90.6% positive response)



**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

2006-2007 trending information is available for all 4 of the “Environment of Trust & Mutual Respect between Site Senior Management and the Workforce” cultural attributes. All of these attributes showed either improved or relatively steady ratings since the 2006 Independent Assessment.

- 1 showed notable improvement ( $\geq 5\%$ )
- 2 showed nominal improvement ( $\geq 2.5\%$ )
- 1 was relatively steady

**SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS**

The following individual DBNPS Functional Organization provided a low rating of the “Environment of Trust & Mutual Respect between Site Senior Management and the Workforce”, which represents a localized Area in Need of Attention:

- Site Protection/Security: 2.89

The following individual DBNPS Functional Organization provided a relatively low rating of the “Environment of Trust & Mutual Respect between Site Senior Management and the Workforce” that, while acceptable based on industry norms, is noteworthy:

- Electrical Maintenance: 3.07

Organizations showing the most significant declining 2006-2007 trends in “Environment of Trust & Mutual Respect between Site Senior Management and the Workforce” ratings include:

- FIN Maintenance: ( $\downarrow 13\%$ )

Organizations showing the most significant declining 2006-2007 trends in “Environment of Trust & Mutual Respect between Site Senior Management and the Workforce” ratings include:

- Nuclear Plant Systems Engineering: ( $\uparrow 38\%$ )
- Engineering Programs: ( $\uparrow 24\%$ )
- Nuclear Procedures Control: ( $\uparrow 24\%$ )
- Rapid Response Engineering: ( $\uparrow 23\%$ )
- Nuclear Radiation Protection: ( $\uparrow 21\%$ )
- Emergency Response: ( $\uparrow 20\%$ )

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4**  
**LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**IV. SUMMARY OF WRITE-IN COMMENTS RELATED TO THE LMS**

**Introduction**

The 2007 DBNPS NSC Workforce Survey provided participants two opportunities to provide write-in comments. Approximately 20% of the write-in comments received were related to some aspect of LMS, with the vast majority focusing on “trust” and “confidence” issues. A summary of the common or recurring themes derived from the analysis of those write-in comments is provided by comment “category” below.

**Confidence in DBNPS Management**

“Confidence in Management” received 23 write-in comments. Of these, 12 were positive in nature and 11 were negative in nature.

The positive comments indicated that management and supervision are considered to be supportive, responsive, providing good leadership, and interacting well with the workforce.

The negative comments indicated that:

- There is a lack of responsiveness on the part of management to issues, including survey results.
- There is a lack of management knowledge and qualification.
- There is a lack of confidence based on various actions of management including resource allocations and workload/quality expectations.

Four of the 11 negative comments were provided by the Site Protection/Security organization.

**Trust in DBNPS Management**

“Trust in Management” received 67 write-in comments. Of these, 7 were positive in nature and 60 were negative in nature.

The positive comments indicated that workers felt more trusting of their supervisors, management and senior management.

The negative comments indicated that:

- There is a lack of trust based on observations of antagonistic, sarcastic, or demanding management behavior. (7 comments)
- There is a perception that management does not care and does not want to hear about problems and issues, in part evidenced by ignoring issues. (6 comments)
- There is a lack of trust based on poor management practices including micromanagement. (5 comments)
- There is a lack of sufficient management visibility and accessibility, primarily as a result of too many meetings. (5 comments)
- There is a significant lack of trust in management in the Site Protection/Security organization. (23 comments) Approximately 50% of the Site Protection/Security negative comments were focused on senior management within the Site Protection/Security organization.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 4  
LEADERSHIP, MANAGEMENT AND SUPERVISORY BEHAVIORS & PRACTICES**

**Trust and Confidence in FENOC Management**

“Trust and Confidence in FENOC Management” received 10 negative write-in comments with the following themes<sup>3</sup>:

- There is a perception that FENOC is not well enough informed about what it takes to maintain a nuclear facility and tends to dictate how things should be done without the opportunity for dialog or site feedback. (4 comments)
- There is a perception that FENOC is not improving in operating as a fleet including lack of clearly defining corporate organization functions and a lack of leadership in fostering teamwork and agreement with the sites on how to move toward common processes. (4 comments)

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<sup>3</sup> It should also be noted that there were 7 additional negative comments related to perceptions that FENOC management places budget, production, and/or schedule before Nuclear Safety.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 5**  
**NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

**Introduction**

The 2007 Independent Assessment of the DBNPS NSC/SCWE included an assessment based on the Nuclear Safety Culture components and attributes identified in NRC RIS 2006-13.

SYNERGY has developed a survey-based model for the RIS 2006-13 NSC components and associated attributes. In developing the model for the RIS 2006-13 components and attributes, it became clear that:

- Some of the specific attributes were not amenable to being addressed through an all-hands employee survey<sup>1</sup>.
- The survey questions/attributes used in SYNERGY's standard cultural models for the NSC/SCWE are well aligned with and provide good coverage of the components and attributes identified in RIS 2006-13. The few exceptions were associated with the specificity of certain attributes. In some of these cases, additional survey questions were included.

The model structure utilized by SYNERGY for the RIS 2006-13 NSC components and associated attributes is presented below.

- Human Performance Cross-Cutting Components
  - Decision-Making
  - Resources
  - Work Control
  - Work Practices
- Problem Identification and Resolution Cross-Cutting Components
  - General Problem Identification and Resolution<sup>2</sup>
  - Problem Identification and Resolution – Identification of Issues<sup>3</sup>
  - Corrective Action Program
  - Certain Elements of the ECP<sup>4</sup>
  - Operating Experience
  - Self and Independent Assessments
- Safety Conscious Work Environment Cross Cutting Components
  - Environment for Raising Concerns<sup>5</sup>
  - Preventing, Detecting and Mitigating Perceptions of Retaliation
- Other Safety Culture Components
  - Accountability
  - Continuous Learning Environment
  - Organizational Change Management
  - Safety Policies<sup>6</sup>

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<sup>1</sup> These attributes were addressed through documentation reviews and personnel interviews to the extent practicable.

<sup>2</sup> This composite component was added by SYNERGY due the fact that there are some P&IR-related survey attributes not specifically linked to the CAP.

<sup>3</sup> This composite component was added by SYNERGY due to the fact that there are some survey attributes related to issue-identification that are not specifically linked to the CAP per se.

<sup>4</sup> This component was added by SYNERGY due to the fact that certain ECP attributes were included by the NRC under the CAP component.

<sup>5</sup> Note that the NRC includes many ECP attributes in this component.

<sup>6</sup> The SYNERGY NSC survey includes some NSC-related attributes that are not specifically included in NRC RIS 2006-13. SYNERGY has concluded that the best fit for these attributes is under the "Safety Policies" component.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 5**  
**NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

SCWE is a major component within the model for RIS 2006-13. As a sub-metric of the Overall NSC, the SCWE is weighted approximately the same in this model as it is weighted in SYNERGY's standard cultural model. However, in this model the SCWE "Demonstrated Willingness to Take Appropriate Action" attributes are not as highly weighted as in SYNERGY's cultural model for the SCWE. Accordingly, the numerical ratings for the Overall SCWE and for the Overall NSC obtained using this model are expected to be somewhat lower than those obtained using SYNERGY's models.

Other factors that create differences between the numerical ratings of the Overall NSC using SYNERGY's cultural models and the numerical rating of the Overall NSC using this model are:

- The inclusion of some GCWE-related attributes in certain components of this model (e.g., Change Management, Work Control and Work Practices).
- The inclusion of a few LMS-related attributes in the Continuous Learning Environment component of this model.

For informational purposes, ratings of the cultural metrics for the RIS 2006-13 NSC components and associated attributes have been characterized using the following protocol:

- Highly Effective – equivalent to a top quartile rating within the commercial nuclear power plant industry.
- Effective – equivalent to a second or third quartile rating within the commercial nuclear power plant industry.
- Opportunity for Improvement – equivalent to a rating near the bottom of the third quartile within the commercial nuclear power plant industry.
- Marginally Effective – equivalent to a fourth quartile rating within the commercial nuclear power plant industry.
- Not Effective – equivalent to a bottom decile rating within the commercial nuclear power plant industry.

The results obtained using the RIS 2006-13 model of the NSC and using SYNERGY's standard model of the NSC were similar.

Areas of Strength, Areas for Improvement and Areas in Need of Attention were not identified for the RIS 2006-13 NSC components and associated attributes since they have been identified using SYNERGY's cultural model for the NSC.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 5  
NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

**Summary of Results<sup>7</sup>**

Overall NSC Results

The DBNPS Site Composite Organization rating of the Overall Nuclear Safety Culture based on the NRC RIS 2006-13 Cultural Model is provided in Table 5-1 below. This rating is based on the 2007 DBNPS Workforce Survey results.

**Table 5-1**

<b>NRC RIS METRIC</b>	<b>2007 RATING</b>	<b>2006 RATING</b>	<b>2006-2007 TREND</b>	<b>2007 SURVEY RATING</b>
Overall Nuclear Safety Culture	4.06	3.96	↑2.7%	Highly Effective

The following DBNPS Functional Organization provided a low rating of the Overall NSC, which is acceptable but noteworthy:

- Electrical Maintenance – 3.58

The following DBNPS Functional Organizations showed notably declining 2006-2007 trends in the Overall NSC rating:

- Electrical Maintenance – ↓9%
- Records Management – ↓6%
- Work Management – ↓6%

The following DBNPS Functional Organizations showed the most significantly improving 2006-2007 trends in the Overall NSC rating:

- Nuclear Warehousing – ↑34%
- Nuclear Plant Systems Engineering – ↑33%
- Engineering Programs – ↑22%

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<sup>7</sup> Additional information has been provided in the form of color-coded windows tables, which include data and data characterization for survey numerical ratings and 2006-2007 trends for all key cultural metrics used in SYNERGY's Model of NRC RIS 2006-13. This information is provided for the DBNPS Site Composite Organization, Major Functional Organizations, Individual Functional Organizations and Demographic Categories. This information has been provided to DBNPS senior management on a SYNERGY-Proprietary CD-ROM.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 5  
NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

Major Cultural Component Results

The DBNPS Site Composite Organization ratings of the four Major Components of the NRC RIS 2006-13 Cultural Model are provided in Table 5-2 below. These ratings are based on the 2007 DBNPS Workforce Survey results.

**Table 5-2**

<b>NRC RIS COMPONENT</b>	<b>2007 RATING</b>	<b>2006 RATING</b>	<b>2006-2007 TREND</b>	<b>2007 SURVEY RATING</b>
Human Performance	3.98	3.86	↑3.0%	Highly Effective
Problem Identification & Resolution	4.02	3.88	↑3.8%	Highly Effective
Safety Conscious Work Environment	4.31	4.24	↑1.6%	Highly Effective
Other Safety Culture Components	3.95	3.84	↑2.7%	Highly Effective

Human Performance Component Results

The DBNPS Site Composite Organization ratings of the four Human Performance Components of the NRC RIS 2006-13 Cultural Model are provided in Table 5-3 below. These ratings are based on the 2007 DBNPS Workforce Survey results.

**Table 5-3**

<b>HUMAN PERFORMANCE COMPONENTS</b>	<b>2007 RATING</b>	<b>2006 RATING</b>	<b>2006-2007 TREND</b>	<b>2007 SURVEY RATING</b>
Decision Making	3.94	3.91	↑0.8%	Highly Effective
Resources	3.86	3.66	↑5.5%	Highly Effective
Work Control	3.97	3.85	↑3.1%	Highly Effective
Work Practices	4.14	4.03	↑2.7%	Highly Effective

The following DBNPS Functional Organization provided a low rating of the Decision Making component, which represents a localized Opportunity for Improvement:

- Electrical Maintenance – 3.38

**COIA-SC-2007 FINAL REPORT ATTACHMENT 5  
NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

Problem Identification & Resolution Component Results

The DBNPS Site Composite Organization ratings of the Problem Identification & Resolution Components of the NRC RIS 2006-13 Cultural Model are provided in Table 5-4 below. These ratings are based on the 2007 DBNPS Workforce Survey results.

**Table 5-4**

<b>PROBLEM I&amp;R COMPONENTS</b>	<b>2007 RATING</b>	<b>2006 RATING</b>	<b>2006-2007 TREND</b>	<b>2007 SURVEY RATING</b>
General Problem Identification and Resolution	4.15	4.02	↑3.1%	Highly Effective
Problem Identification	4.16	3.92	↑6.1%	Highly Effective
Corrective Action Program	3.99	3.90	↑2.4%	Highly Effective
Problem Resolution (ECP)	3.97	3.89	↑2.1%	Highly Effective
Operating Experience	4.00	3.80	↑5.2%	Highly Effective
Self-Assessment and Independent Assessment	3.87	3.77	↑2.6%	Highly Effective

The following DBNPS Functional Organization provided a low rating of the Problem Resolution (ECP) component, which represents a localized Opportunity for Improvement:

- Site Protection/Security – 3.26

The following DBNPS Functional Organization provided a low rating of the Self-Assessment/Independent Assessment component, which represents a localized Opportunity for Improvement:

- Electrical Maintenance – 3.36

Safety Conscious Work Environment Component Results

The DBNPS Site Composite Organization ratings of the Safety Conscious Work Environment Components of the NRC RIS 2006-13 Cultural Model are provided in Table 5-5 below. These ratings are based on the 2007 DBNPS Workforce Survey results.

**Table 5-5**

<b>SCWE COMPONENTS</b>	<b>2007 RATING</b>	<b>2006 RATING</b>	<b>2006-2007 TREND</b>	<b>2007 SURVEY RATING</b>
Environment for Raising Concerns	4.33	4.26	↑1.7%	Highly Effective
Prevention, Detection & Mitigation of Perceptions of Retaliation	4.23	4.19	↑0.8%	Highly Effective



**COIA-SC-2007 FINAL REPORT ATTACHMENT 5  
NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

Other Safety Culture Components Results

The DBNPS Site Composite Organization ratings of the four Other Safety Culture Components of the NRC RIS 2006-13 Cultural Model are provided in Table 5-6 below. These ratings are based on the 2007 DBNPS Workforce Survey results.

**Table 5-6**

<b>OTHER SAFETY CULTURE COMPONENTS</b>	<b>2007 RATING</b>	<b>2006 RATING</b>	<b>2006-2007 TREND</b>	<b>2007 SURVEY RATING</b>
Accountability	4.15	4.00	↑3.8%	Highly Effective
Continuous Learning Environment	3.92	3.82	↑2.6%	Highly Effective
Organizational Change Management	3.44	3.36	↑2.4%	Highly Effective
Safety Policies	4.27	4.19	↑2.0%	Highly Effective

**NOTE:**

Industry norms for “Organizational Change Management” are not strong, reflecting a general need for improvement in this area throughout the industry. This has been noted in a GCWE “Observation and Suggestion” (Refer to Attachment 3).

The following DBNPS Functional Organization provided a very low rating of the Organizational Change Management component, which represents a localized Area for Improvement:

- Electrical Maintenance – 2.58

The following DBNPS Functional Organization provided a low rating of the Organizational Change Management component, which represents a localized Area in Need of Attention:

- Shift Operations – 2.84

The following DBNPS Functional Organization provided a low rating of the Self-Assessment/Independent Assessment component, which represents a localized Opportunity for Improvement:

- Site Protection/Security – 2.94

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**NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

**RIS 2006-13 Survey Coverage Gaps**

As indicated above, in developing the model for the RIS 2006-13 components and attributes, some of the specific attributes were not amenable to being addressed through an all-hands employee survey. These attributes were addressed through documentation reviews and personnel interviews to the extent practicable.

Most of the information obtained through these documentation reviews and personnel interviews is reported in the applicable Sections of the COIA-SC-2007 Final Report. Additional information is provided below.

Decision-Making

1. *The licensee makes safety-significant or risk significant decisions using a systematic process, including formally defining the authority and roles for decisions affecting nuclear safety, communicating these roles to applicable personnel, implementing these roles and authorities as designed.*

Each year, the DBNPS Site Vice President issues a “Command Responsibilities” letter to Operations Shift Managers outlining expectations of that key position.

The following relevant procedures and Business Practices are in place:

- NOP-OP-1010 Operational Decision-Making (ODMI)
- NOP-ER-3001 Problem Solving and Decision Making (PSDM)
- NG-DB-00001 – On-line Risk Process
- NOP-OP-1007 – Risk Determination
- DBBP-OPS-0003 – On-line Risk Management Process

For day-to-day work activities:

- Work Planners evaluate the risk of each job using a Risk Evaluation Form.
- The Work Implementation Schedule identifies the risk code associated with work activities.
- The MAOM package includes a Daily Risk Summary and Key Work Activities schedule that also identifies the associated risk code.

Per NOP-OP-1007, Risk Assessments are performed by the screening committee for new notifications. Other orders (PMs, Surveillance Tests, etc) are screened by the Work Management process (planners, lead work group and Ops review). The final verification of Risk Assessment is performed during the Operations review of the integrated schedule. Prior to the implementation of work the on-shift SROs have an opportunity to challenge the identified risk designation of the task. NOP-OP-1007 contains attachments for exempt activities, a plant risk matrix (which ties activities to risk levels, the required approvals, required level of brief, and the other actions required such as level of oversight), risk assessment worksheets, and examples of asset utilization factors. Currently, the On-Line Risk Assessor position is vacant. The Work Week Managers and Work Week SROs are performing this function, with assistance from the Design and Analysis group when needed.

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**NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

The Work Implementation Schedule identifies the risk code associated with work activities and the MAOM package includes a Key Work Activities schedule that also identifies the associated risk code.

The Assessment team:

- Reviewed documentation related to the above, including the most recent ODMI Reports and the most recent PSDM Reports.
- Performed observations of work week planning and scheduling meetings.
- Performed observations of maintenance work activities in the field.

2. *The licensee conducts effectiveness reviews of safety-significant decisions to verify the validity of underlying assumptions, to identify possible unintended consequences and to determine how to improve future decisions.*

Through personnel interviews, the Assessment team determined that “open” ODMIs are reviewed frequently:

- The Shift Manager reviews all open ODMIs once per shift to ensure the assumptions are still valid and trigger points are met.
- The SROs are required to review the ODMI Log as part of their turnover prior to taking the shift.
- An Operations Peer Team assesses the adequacy of the ODMI process semi-annually.
- All open ODMIs are listed on the DB Daily Status, which includes the ODMI recommendation and the owner. This allows the DB team to know what ODMIs are open and provide input if conditions change that could affect the assumptions in the ODMI.
- At the MAOM, the Shift Manager asks if there are any changes / updates for the open ODMIs.

The Assessment Team was unable to obtain or identify information regarding a formalized effectiveness review process specifically designed to improve future decisions.

### Resources

1. *Resources necessary for maintaining long-term safety by maintenance of design margins, minimizing preventative maintenance deferrals and ensuring that maintenance and engineering backlogs are low enough to support safety.*

Based on personnel interviews and documentation reviews, the Assessment Team determined that:

- Maintenance and Engineering backlogs continue to be reduced and are currently at levels that are low enough to support Nuclear Safety and safe plant operations.
- Increased emphasis on Plant System Health has occurred during the past year and is reflected in actions and plans to improve system availability.
- Deferrals of preventative maintenance are being adequately controlled.

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**NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

2. *Resources necessary for training of personnel and for ensuring that there are sufficient qualified personnel to maintain work hours within working hour guidelines.*

The Assessment Team conducted interviews with Operations Training and Shift Operations personnel.

- The Operations Training organization has filled two position vacancies with personnel who are in now in training to be operations instructors.
- Operations Training personnel continue to be concerned about workload and staffing levels. They are particularly concerned about “aging work force” issues within their group. Shift Operations personnel indicated that workload remains high. The operations training pipeline continues to be active.

3. *Resources necessary for complete, accurate and up to date ...work packages and correct labeling of components.*

Information obtained through the survey write-in comments and personnel interviews did not identify any significant concerns in this area.

4. *Resources for adequate and available facilities and equipment – including physical improvements, simulator fidelity and emergency facilities & equipment.*

Based on interviews with Operations Training and Shift Operations personnel and on documentation reviews:

- There is a high degree of fidelity between the simulator and the actual plant.
- The backlog of simulator changes is manageable.

#### Work Control

1. *The licensee plans work activities to support long term equipment availability by limiting safety systems unavailability.*

Based on personnel interviews, observations of work planning & scheduling activities and documentation reviews, the Assessment Team concluded that limiting safety system unavailability is receiving appropriate attention. DBNPS personnel recognize that there is room for further improvement in this area.

2. *Maintenance scheduling is more preventive than reactive.*

Based on personnel interviews and documentation reviews, the Assessment Team concluded that the balance between preventive and reactive maintenance scheduling is satisfactory. DBNPS is in the process of implementing a new set of Preventative Maintenance Templates, which will provide additional assurance that a proper balance is maintained.

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**NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

Corrective Action Program

1. *The licensee implements a corrective action program with a low threshold level for identifying issues. The licensee identifies such issues completely, accurately and in a timely manner commensurate with their safety significance.*

All interviewees indicated that they thought the CAP process was being effectively used for the complete, accurate, and timely identification of issues. The majority felt that the threshold was appropriately low. The Report of the 2007 Independent Assessment of CAP Implementation was reviewed and found to be a very comprehensive assessment of the CAP. This report concluded that the CAP was being effectively used for the identification of issues.

2. *For significant problems, the licensee conducts effectiveness reviews of corrective actions to ensure that the problems are resolved.*

The conduct of effectiveness reviews for corrective actions is a specified part of the CAP for CRs involving a root cause evaluation and for other CRs when requested by the CR owner or by the Corrective Action Review Board (CARB). Management and other interviewees with significant involvement with the CAP process indicated that effectiveness reviews are being performed as required by the program and that they are being performed effectively.

This subject was more thoroughly evaluated through the 2007 Independent Assessment of CAP Implementation.

Operating Experience

1. *The licensee uses operating experience information, including vendor recommendations.*

The Assessment Team did not specifically evaluate this area.

Self-Assessment

1. *The licensee conducts self-assessments at an appropriate frequency. Such assessments are of sufficient depth, are comprehensive, are appropriately objective and are self-critical.*

Refer to Sections IV.B.7 and VI of the COIA-SC-2007 Final Report.

2. *The licensee periodically assesses the effectiveness of oversight groups and programs (such as the CAP) and policies.*

The Nuclear Industry Evaluation Program provides for teams that evaluate the effectiveness of the oversight programs once every two years. The most recent NIEP evaluation of DBNPS was conducted in January 2006. A self-assessment of Fleet Focused Assessments was conducted in mid-2007 in preparation for the NIEP evaluation at the Perry Nuclear Power Plant. As identified in the COIA-SC-2007 Main Report, this self-assessment was very thorough and self-critical.

The Engineering, Operations, and Corrective Action Programs are assessed annually under the Confirmatory Order independent assessments. Programs and policies are also assessed through the Company Nuclear Review Board and its subcommittees and through internal self-assessments performed under NOBP-LP-2001.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 5  
NRC RIS 2006-13 NUCLEAR SAFETY CULTURE COMPONENTS**

SCWE

1. *Past behaviors, actions or interactions that may reasonably discourage the raising of such issues are actively mitigated.*
2. *Claims of discrimination are investigated consistent with the content of the regulations regarding employee protection and any necessary corrective actions are taken in a timely manner, including actions to mitigate any potentially chilling effect on others due to the personnel action under investigation.*
3. *The potential chilling effects of disciplinary actions and other potentially adverse personnel actions (e.g. reductions, outsourcing and reorganization) are considered and compensatory actions are taken when appropriate.*

The above-mentioned actions/activities are conducted under the auspices of the DBNPS Safety Conscious Work Environment Review Team (SCWERT). Survey results and personnel interviews indicate that the SCWERT is effectively carrying out its charter/assigned responsibilities. Refer to Section IV.C.3 of the COIA-SC-2007 Final Report.

Accountability

1. *Management defines the line of authority and responsibility for nuclear safety.*

Personnel interviews, documentation reviews and the survey results indicate that the line of authority and responsibility for nuclear safety is clear at DBNPS.

Organizational Change Management

1. *Management uses a systematic process for planning, coordinating and evaluating the safety impacts of decisions related to major changes in organizational structures and functions, leadership, policies, programs, procedures and resources.*

Personnel interviews and documentation reviews indicate that a systematic process exists (refer to NOBP-SS-4001 R2 – Change Management).

## COIA-SC-2007 FINAL REPORT ATTACHMENT 6 INHERENT TRENDING INFORMATION

### **Introduction**

The survey instrument used in the 2007 DBNPS Independent Assessment of the NSC/SCWE included four questions that were designed to measure progress achieved in specific topical areas of interest.

These survey questions were structured to obtain inherent trending information using a question format along the lines of “During the past year, we have made progress in achieving improvement in the effectiveness of \_\_\_\_\_”.

### **Inherent Trend Survey Questions**

The following “inherent trend” questions were included in the 2007 DBNPS NSC Workforce Survey:

77. During the past year, the quality and value of our Section Integrated Performance Assessments have improved.
78. During the past year, the quality and value of assessments performed by the DBNPS/FENOC Nuclear Oversight organizations have improved.
79. During the past year, we have improved our effectiveness in identifying and resolving problems before they become self-revealing or are identified to us by others.
80. During the past year, in my Functional Organization we have improved our effectiveness in prioritizing and managing our workload.

### **Inherent Trend Survey Question Results**

Q.77 “During the past year, the quality and value of our Section Integrated Performance Assessments have improved.”

- The DBNPS Site composite rating for this survey question was 3.61, with 91.3% of the survey respondents providing positive responses. This rating indicates that the DBNPS workforce believes that significant improvement has occurred in this area during the past year.
- Of the 41 individual DBNPS Functional Organizations, 100% indicated that at least nominal improvement had occurred in this area during the past year.
  - 14 indicated “very significant improvement”
  - 15 indicated “significant improvement”
  - 5 indicated “notable improvement”
  - 7 indicated “nominal improvement”

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INHERENT TRENDING INFORMATION**

Q.78 “During the past year, the quality and value of assessments performed by the DBNPS/FENOC nuclear oversight organizations have improved.”

- The DBNPS Site composite rating for this survey question was 3.55, with 91.6% of the survey respondents providing positive responses. This rating indicates that the DBNPS workforce believes that significant improvement has occurred in this area during the past year.
- Of the 41 individual DBNPS Functional Organizations, 93% indicated that at least nominal improvement had occurred in this area during the past year.
  - 11 indicated “very significant improvement”
  - 12 indicated “significant improvement”
  - 10 indicated “notable improvement”
  - 5 indicated “nominal improvement”
- The following three organizations indicated that nominal decline had occurred during the past year:
  - Electrical Maintenance
  - FIN Maintenance
  - Engineering Programs

Q.79 “During the past year, we have improved our effectiveness in identifying and resolving problems before they become self-revealing or are identified to us by others.”

- The DBNPS Site composite rating for this survey question was 3.65, with 93.0% of the survey respondents providing positive responses. This rating indicates that the DBNPS workforce believes that significant improvement has occurred in this area during the past year.
- Of the 41 individual DBNPS Functional Organizations, 100% indicated that at least nominal improvement had occurred in this area during the past year.
  - 17 indicated “very significant improvement”
  - 15 indicated “significant improvement”
  - 8 indicated “notable improvement”
  - 1 indicated “nominal improvement”



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**INHERENT TRENDING INFORMATION**

Q.80 “During the past year, in my Functional Organization, we have improved our effectiveness in prioritizing and managing our workload.”

- The DBNPS Site composite rating for this survey question was 3.39, with 80.0% of the survey respondents providing positive responses. This rating indicates that the DBNPS workforce believes that notable improvement has occurred in this area during the past year.
- Of the 41 individual DBNPS Functional Organizations, 90% indicated that at least nominal improvement had occurred in this area during the past year.
  - 7 indicated “very significant improvement”
  - 7 indicated “significant improvement”
  - 17 indicated “notable improvement”
  - 6 indicated “nominal improvement”
- The following two organizations indicated that notable decline had occurred during the past year:
  - Electrical Maintenance
  - Nuclear ALARA/RP Services
- The following organization indicated that significant decline had occurred during the past year:
  - Nuclear Mechanical/Structural Engineering
- The following organization indicated that very significant decline had occurred during the past year:
  - Engineering Analysis

## **COIA-SC-2007 FINAL REPORT ATTACHMENT 7 DEMOGRAPHIC VARIATIONS INFORMATION**

### **Introduction**

Survey respondents were requested to provide demographic information in three areas:

1. **Worker Category**
  - Salaried/Exempt Employee
  - Non-Union/Non-Exempt Employee
  - Union Employee
  - Contractor
  
2. **Organizational Position**
  - Director/Manager
  - Superintendent/Supervisor/Foreman
  - Technician Staff
  - Craft/Plant Staff
  - Office/Administrative Staff
  
3. **Years of Service**
  - < 1 year
  - 1-5 years
  - 6-10 years
  - >10 years

This information was requested along with assurances that it would not be used to identify specific individuals. The vast majority of survey respondents provided the requested information.

### **Demographic Variation Results Summary**

Table 7-1 presents the variations in key cultural metric ratings by Worker Category. The patterns evidenced by these variations, as compared to the DBNPS Site Composite ratings, are generally consistent with industry patterns observed by SYNERGY. However, the magnitude of the negative variations in ratings provided by personnel within the Union Employee category for the NSC and the SCWE is somewhat less than is typically observed by SYNERGY.

Table 7-2 presents the variations in key cultural metric ratings by Organizational Position. The patterns evidenced by these variations, as compared to the DBNPS Site Composite ratings, are generally consistent with industry patterns observed by SYNERGY.

Table 7-3 presents the variations in key cultural metric ratings by Years of Service. The patterns evidenced by these variations, as compared to the DBNPS Site Composite ratings, are generally consistent with industry patterns observed by SYNERGY.

**COIA-SC-2007 FINAL REPORT ATTACHMENT 7  
DEMOGRAPHIC VARIATIONS INFORMATION**

**TABLE 7-1  
DEMOGRAPHIC VARIATIONS BY WORKER CATEGORY**

<b>ORGANIZATION</b>	<b>OVERALL NSC</b>	<b>OVERALL SCWE</b>	<b>OVERALL GCWE</b>
<b>DBNPS SITE COMPOSITE</b>	<b>4.22</b>	<b>4.55</b>	<b>3.83</b>
Salaried/Exempt Employee	4.35 +3%	4.67 +3%	3.97 +4%
Non-Union/Non-Exempt Employee	4.35 +3%	4.67 +3%	4.06 +6%
Union Employee	4.01 -5%	4.36 -4%	3.54 -8%
Contractor	4.11 -3%	4.42 -3%	3.67 -4%

**COIA-SC-2007 FINAL REPORT ATTACHMENT 7  
DEMOGRAPHIC VARIATIONS INFORMATION**

**TABLE 7-2  
DEMOGRAPHIC VARIATIONS BY ORGANIZATIONAL POSITION**

<b>ORGANIZATION</b>	<b>OVERALL NSC</b>	<b>OVERALL SCWE</b>	<b>OVERALL GCWE</b>
<b>DBNPS SITE COMPOSITE</b>	<b>4.22</b>	<b>4.55</b>	<b>3.83</b>
Director/Manager	4.67 +11%	4.92 +8%	4.35 +14%
Superintendent/Supervisor/Foreman	4.45 +5%	4.75 +4%	4.11 +7%
Technical Staff	4.26 +1%	4.61 +1%	3.86 +1%
Craft/Plant Staff	3.95 -6%	4.34 -5%	3.44 -10%
Office/Administrative Staff	4.44 +5%	4.64 +2%	4.22 +10%

**COIA-SC-2007 FINAL REPORT ATTACHMENT 7  
 DEMOGRAPHIC VARIATIONS INFORMATION  
 TABLE 7-3**

**DEMOGRAPHIC VARIATIONS BY YEARS OF SERVICE**

<b>ORGANIZATION</b>	<b>OVERALL NSC</b>	<b>OVERALL SCWE</b>	<b>OVERALL GCWE</b>
<b>DBNPS SITE COMPOSITE</b>	<b>4.22</b>	<b>4.55</b>	<b>3.83</b>
Less than 1 Year	4.42 +5%	4.69 +3%	4.16 +9%
1 to 5 Years	4.07 -4%	4.43 -3%	3.63 -5%
6 to 10 Years	4.09 -3%	4.52 -1%	3.68 -4%
More than 10 Years	4.27 +1%	4.59 +1%	3.86 +1%