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January 26, 2009  
L-09-011

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  
Submission of the 2008 Independent Assessment of the Davis-Besse Nuclear Power  
Station Nuclear Safety Culture and Safety Conscious Work Environment Report

The purpose of this letter is to submit the assessment report for the 2008 Independent Assessment of the Davis-Besse Nuclear Power Station (DBNPS) Nuclear Safety Culture and Safety Conscious Work Environment. 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. This assessment fulfills the requirement of the March 2004 Confirmatory Order and is the final year this assessment is required by that Order.

The on-site activities of the Nuclear Safety Culture and Safety Conscious Work Environment Independent Assessment were conducted from October 27 to October 31, 2008, in accordance with the Assessment Plan, submitted via letter number L-08-193, dated June 6, 2008. The final debrief of the assessment results was presented to the DBNPS management on December 12, 2008, marking the end of the assessment.

Based on the integration of information obtained through the five diverse sources of assessment input, the Assessment Team concluded that the DBNPS Nuclear Safety Culture and Safety Conscious Work Environment was "Highly Effective." The Assessment Team also concluded that the three major components of Nuclear Safety Culture (Nuclear Safety Values, Behaviors and Practices; Safety Conscious Work Environment; and Employee Concerns Program Effectiveness) were also "Highly

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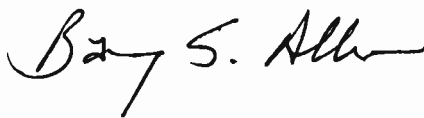
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Effective,” and the sub-components of these major components were rated as either “Highly Effective” or “Effective.”

Enclosure A to this letter contains the results of the Nuclear Safety Culture and Safety Conscious Work Environment Independent Assessment, including one (1) Area for Improvement (AFI). Enclosure B contains the Action Plan to address the AFI.

There are no regulatory commitments contained in this letter. If there are any questions or if additional information is required, please contact Mr. Dale R. Wuokko, Manager – Site Regulatory Compliance, at (419) 321-7120.

Sincerely,

A handwritten signature in black ink that reads "Barry S. Allen". The signature is written in a cursive style with a large, stylized initial 'B'.

Barry S. Allen

GMW

Enclosures:

- A. Independent Assessment of the Davis-Besse Nuclear Power Station Nuclear Safety Culture and Safety Conscious Work Environment
- B. Action Plan to Address Area for Improvement - 2008 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-09-011

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

**ASSESSMENT NUMBER: COIA-SC-2008**

**DECEMBER 19, 2008**

(141 pages follow)

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

**ASSESSMENT NUMBER: COIA-SC-2008**

**DECEMBER 19, 2008**

**Assessment Team Members:**

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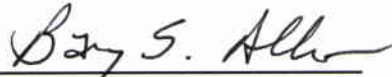
**Submitted By:**



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John C. Guibert  
Assessment Team Leader

**Reviewed and Accepted By:**



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Barry S. Allen  
DBNPS Vice President – Nuclear



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## I. EXECUTIVE SUMMARY

### I.A 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 fifth 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 third 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 in need of attention that were identified in the 2007 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 2008 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 &

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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 49 nuclear power plant sites, 77 nuclear power plants and 3 nuclear fuel cycle facilities.

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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.

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 2007-2008 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 generally very positive and show continued improvement since the 2007 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.

With the exception of metrics related to the Employee Concerns Program, survey numerical ratings of all major cultural components and sub-components improved to some degree (typically about 1% to 2%) since the 2007 Independent Assessment. The Employee Concern Program metrics showed minimal decline (i.e., < 1%) since the 2007 Independent Assessment.

When compared to commercial nuclear power plant industry norms, DBNPS Site Composite Organization numerical ratings of all 187 individual survey questions/cultural attributes are considered to represent Areas of Strength.

Direct 2007-2008 trending information is available for 185 of the 187 individual survey questions/cultural attributes. Of these, 173 showed trends that improved to some degree. The other 12 survey questions/cultural attributes showed minimal decline, with the highest decline being 1.6%.

- 4 showed notable improvement ( $\geq 5\%$  and  $< 10\%$ )
- 57 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 112 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )
- 12 showed minimal decline ( $\geq 0.0\%$  and  $< 2.5\%$ )

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

- Numerous “Areas of Strength”
- No general “Areas for Improvement”
- One localized “Area for Improvement”
- No general “Areas in Need of Attention”
- Two localized “Areas in Need of Attention”
- Four NSC/SCWE-related general “Opportunities for Improvement”
- One GCWE/LMS-related general “Opportunity for Improvement”
- Seven localized “Opportunities for Improvement”

A few additional suggestions have also been provided by the Assessment Team. These are presented in the body of this Report.



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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, the Assessment Team 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 DBNPS organization has seen further evidence that its Nuclear Safety Values and Priorities have been sustained and reinforced. Nonetheless, the 2008 Assessment Team continues to believe that some of the workforce survey numerical ratings may be somewhat inflated due to the organization’s frame of reference with respect to excellence (i.e., comparing itself against where the organization has been versus comparing itself against evolving and higher industry standards of excellence).

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 2007 Independent Assessment, and the organization’s understanding of industry standards of excellence has improved notably since the first Independent Assessment conducted by SYNERGY in 2006.

The Assessment Team continues to suggest 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

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

#### I.D.1 NSC and SCWE Results<sup>2</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 2008 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.

<sup>2</sup> As was the case for the 2006 and 2007 Independent Assessments 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. The results obtained using each model were consistent with each other.

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

<b>SUB-COMPONENTS</b>	<b>DBNPS SITE 2008 RATING</b>
Standards and Expectations for Nuclear Safety	Highly Effective
Nuclear Safety As Top Priority	Highly Effective
Operational Nuclear Safety	Effective
Identification of Potential Nuclear Safety Issues/Concerns	Highly Effective
Effective Resolution of Nuclear Safety Issues/Concerns	Effective
Timely Resolution of Nuclear Safety Issues/Concerns	Highly Effective
Continuous Improvement of Nuclear Safety Performance	Effective

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**

<b>TOPICAL AREA</b>	<b>DBNPS SITE 2008 RATING</b>
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

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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**

<b>SUB-COMPONENT</b>	<b>DBNPS SITE 2008 RATING</b>
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**

<b>SUB-AREA</b>	<b>DBNPS SITE 2008 RATING</b>
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

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 2008 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

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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 2008 RATING</b>
ECP As An Acceptable Alternative Path	Highly Effective
Confidence in the ECP	Highly Effective
Bases for Confidence in the ECP	Highly Effective

### **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 2008 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 4.4%. This is the lowest % in SYNERGY’s industry database. The industry mean is 16.0%.
- AOS-N-2: The 2008 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 1.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 4.4%.

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- AOS-N-3: The 2008 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 1.9%. This is lowest % in SYNERGY’s industry database. The industry mean is 5.5%.
- AOS-N-4: The 2008 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 2.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 7.2%.
- AOS-N-5: The 2008 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 3.4%.

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

None were identified.

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

AFI-N-1 The Other Supply Chain (Strategic Supply) organization has been identified as a Priority 1 outlier organization based on having provided low and declined survey numerical ratings of all key cultural metrics (i.e., Overall NSC, Overall SCWE, Overall GCWE and Overall LMS). This organization represents a localized Area for Improvement.

The Other Supply Chain organization is one of three sub-organizations of the Supply Chain organization that supports the DBNPS. It has a relatively small workforce with a headcount of 7 personnel as compared to the total DBNPS workforce headcount of 833 personnel. The Supply Chain organization is unique in that it is managed directly by FirstEnergy rather than by FENOC or DBNPS management.

Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the low and declined ratings is rooted primarily in GCWE-related and LMS-related issues not NSC-related issues; however, SCWE-related concerns exist. The low and declined survey numerical ratings appear to be driven by the behaviors and decisions of off-site management in the Supply Chain organization. Based on other information available to the Assessment

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Team, this situation applies to at least one other FirstEnergy Supply Chain organization.

Based on the personnel interviews and the survey write-in comments, it is suggested that the entire Supply Chain organization supporting DBNPS be included in further evaluations to determine and address the underlying reasons for the low and declined survey numerical ratings.

It is noteworthy that the survey numerical ratings provided by the composite Supply Chain organization supporting DBNPS (i.e., all three sub-organizations combined) would result in that composite organization being identified as a Priority 3 outlier organization, which would be classified as a localized Opportunity for Improvement. This is largely due to higher ratings provided by the Tactical Supply sub-organization, which appears to reflect the work environment supported by the on-site manager of that sub-organization.

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

ANA-N-1 The Electrical Maintenance organization has been identified as a Priority 2 outlier organization based on having provided low and declined survey numerical ratings of the Overall NSC, the Overall SCWE and the Overall GCWE key cultural metrics. This organization represents a localized Area in Need of Attention.

Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE-related and LMS-related issues not NSC-related or SCWE-related issues. The most significant driver of the low and declined survey ratings appears to be continued dissatisfaction with the Training & Qualifications process and associated workload and resource management concerns.

It should be noted that the Electrical Maintenance organization was also identified as a Priority Level 2 outlier organization in the 2007 ISCA.

ANA-N-2 The Instrumentation & Control Maintenance organization has been identified as a Priority 2 outlier organization based on having provided significantly declined survey numerical ratings of the Overall NSC, the Overall SCWE and the Overall GCWE key cultural metrics. This organization represents a localized Area in Need of Attention.

Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE-related and LMS-related issues not NSC-related or SCWE-related issues. The most significant driver of the low and declined survey ratings appears to be dissatisfaction with the Training & Qualifications process and associated workload and resource management concerns.

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

None were identified.

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

OFI-N-1 The Nuclear Warehousing organization has been identified as a Priority 3 outlier organization based on having provided declined survey numerical ratings of all key cultural metrics (i.e., Overall NSC, Overall SCWE, Overall GCWE and Overall LMS). This organization represents a localized Opportunity for Improvement.

The Nuclear Warehousing organization is one of three sub-organizations of the Supply Chain organization that supports the DBNPS. It has a relatively small workforce with a headcount of 10 personnel as compared to the total DBNPS workforce headcount of 833 personnel. It should be noted that this organization had a very low survey participation rate (20% or 2 of 10). The Supply Chain organization is unique in that it is managed directly by FirstEnergy rather than by FENOC or DBNPS management.

Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE-related and LMS-related issues not NSC-related or SCWE-related issues. The most significant driver of the low and declined survey ratings appears to be dissatisfaction with the behaviors and decisions of off-site management in the FirstEnergy Supply Chain organization.

The Assessment Team recommends that this OFI be addressed in conjunction with AFI-N-1.

OFI-N-2 The Mechanical Maintenance organization has been identified as a Priority 3 outlier organization based on having provided declined survey numerical ratings of the Overall NSC and the Overall GCWE key cultural metrics. This organization represents a localized Opportunity for Improvement.

Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE-related and LMS-related issues not NSC-related or SCWE-related issues. The most significant driver of the low and declined survey ratings appears to be dissatisfaction with the Training & Qualifications process and associated workload and resource management concerns.

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

OFI-N-3 Over the past year, the DBNPS has experienced a number of human performance issues in several organizations. DBNPS management has responded to this situation with a number of corrective actions. It is not clear, however, that these actions alone will be effective over the long term.

The Assessment Team believes that:

- The root and contributing causes of these human performance deficiencies must be well understood.



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- A comprehensive, integrated human performance improvement strategy (including elements such as expectations, priorities, beliefs, methods, training, accountability, ownership and reinforcement) should be defined with all elements properly aligned. In this regard, consultation with an organization such as Aubrey Daniels is suggested.

OFI-N-4

Several individual DBNPS Functional Organizations provided particularly low ratings of attributes and metrics related to the adequacy of staffing and the adverse impacts of workload on either nuclear safety or the quality of work/work products.

These perceptions and associated issues were also confirmed through the confidential personnel interviews and the survey write-in comments.

The Assessment Team suggests that DBNPS management evaluate each of these situations and take action as appropriate. The organizations that appear to be most affected are:

- Chemistry
- Electrical Maintenance
- Operations Training (Note: The Assessment Team is aware of recent actions taken here to address this situation.)
- Radiation Protection
- I&C Maintenance
- Technical Training (Maintenance Training)

OFI-N-5

The Nuclear Oversight Organization at DBNPS is encountering a number of challenges related to meeting its desired objective of helping to drive the DBNPS line organizations to higher levels of performance and increased organizational effectiveness. This is particularly the case with respect to the performance-based assessment component of the NOS continuous assessment program. Nuclear Oversight Organization management (both locally at DBNPS and at FENOC Corporate) has identified these challenges and is working to address them.

The Assessment Team believes that the DBNPS Site organization can assist NOS in addressing at least two of these challenges:

- Assisting NOS in obtaining subject matter experts for the performance-based assessment functions who have current/recent line organization experience in the areas they are assessing. This can be accomplished through an effective rotational assignment program between NOS and the DBNPS line organizations.
- Assisting NOS in obtaining current information on industry best practices and highest standards for line organization functions, programs and processes. This can be accomplished by ensuring that the line organizations, particularly the FENOC Peer Groups, provide NOS the information that they are obtaining through benchmarking activities, including interactions with INPO.

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OFI-N-6 There continue to be opportunities to enhance the effectiveness of DBNPS management's Annual Self-Assessment of the NSC<sup>3</sup>. 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. *FENOC should also consider expansion of the questions/attributes in its annual SCWE survey to obtain information on some of the “missing” attributes.*
- 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 more time for the qualitative discussions suggested above, it is 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. *It is also suggested that, in order to increase the amount of discussion time (which is the most valuable part of the overall process), the individual organization ratings of attributes be provided (filled in) prior to the meeting.*

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<sup>3</sup> For the most part, this is a repeat of OFI-N-3 from the 2007 ISCA; changes are identified in italics.

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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 2008 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 2008 RATING</b>
General Adverse Effects of Workload	Effective

**I.D.4 LEADERSHIP, MANAGEMENT, SUPERVISORY BEHAVIORS & PRACTICES RESULTS**

Leadership, Management, Supervisory Behaviors & Practices

The 2008 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 2008 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 2008 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

### **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)

None were identified.

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

OFI-G-1      The Documentation Control organization has been identified as a Priority 3 outlier organization based on having provided declined survey numerical ratings of the Overall GCWE and the Overall LMS key cultural metrics. This organization represents a localized Opportunity for Improvement.

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OFI-G-2 The Operations Training organization has been identified as a Priority 3 outlier organization based on having provided declined survey numerical ratings of the Overall GCWE and the Overall LMS key cultural metrics. This organization represents a localized Opportunity for Improvement.

Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE and LMS-related issues not NSC-related or SCWE-related issues. The most significant driver of the declined survey ratings appears to be related to staffing/workload issues. The Assessment team is aware of actions recently taken that should serve to ameliorate this situation over time.

OFI-G-3 The Maintenance Services organization has been identified as a Priority 4 outlier organization based on having provided declined survey numerical ratings of the Overall GCWE and the Overall LMS key cultural metrics. This organization represents a localized Opportunity for Improvement.

OFI-G-4 The Davis-Besse Supply Chain (Tactical Supply) organization has been identified as a Priority 4 outlier organization based on having provided declined survey numerical ratings of the Overall GCWE and the Overall LMS key cultural metrics. This organization represents a localized Opportunity for Improvement.

The Davis-Besse Supply Chain organization is one of three sub-organizations of the Supply Chain organization that supports the DBNPS. It has a relatively small workforce with a headcount of 8 personnel as compared to the total DBNPS workforce headcount of 833 personnel. The Supply Chain organization is unique in that it is managed directly by FirstEnergy rather than by FENOC or DBNPS management.

Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE-related and LMS-related issues not NSC-related issues; however, SCWE-related concerns exist. The declined survey numerical ratings appear to be driven by the behaviors and decisions off-site management in the FirstEnergy Supply Chain organization.

It is noteworthy that the survey numerical ratings provided by the composite Supply Chain organization supporting DBNPS (i.e., all three sub-organizations combined) would result in that composite organization being identified as a Priority 3 outlier organization, which would be classified as a localized Opportunity for Improvement. This is largely due to higher ratings provided by the Tactical Supply sub-organization, which appears to reflect the work environment supported by the on-site manager of that sub-organization.

The Assessment Team recommends that this OFI be addressed in conjunction with AFI-N-1.

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OFI-G-5 The Business Services organization has been identified as a Priority 4 outlier organization based on having provided declined survey numerical ratings of the Overall LMS key cultural metric. This organization represents a localized Opportunity for Improvement.

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

OFI-G-6: There is a need for continuing management attention and focus on providing training and qualification opportunities for Maintenance craft personnel. This continues to be a significant source of frustration within the Maintenance organizations.

This issue was initially identified in 2007 ISCA Finding ANA-G-1. The Assessment Team acknowledges that progress has been achieved in this area, specifically:

- Maintenance management has provided a number of specialized training opportunities to the workforce
- Increased management focus on T&Q is being provided through a number of mechanisms, including but not limited to CRC meetings, STAC meetings, use of action plans for individuals falling behind in their T&Q progress, and posting of OJT/TPE schedule opportunities.

The Assessment Team suggests the following:

- Establish increased ownership and accountability on the part of Maintenance supervisors for the training and qualification of their assigned workforce
- Obtain additional qualified and experienced Maintenance instructors within the Training Organization
- Reevaluate the process/requirements for obtaining qualifications to determine whether it can be appropriately streamlined
- Achieve increased alignment with and buy-in by the workforce on plans and strategies to address T&Q.

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### **I.D.6 ORGANIZATIONAL SELF CRITICALNESS: EFFECTIVENESS OF SELF-ASSESSMENT ACTIVITIES AND SELF-IDENTIFICATION OF PERFORMANCE WEAKNESSES<sup>4</sup>**

#### Assessment Team Findings

Two Opportunities for Improvement have been identified. These are identified as OFI-N-5 and OFI-N-6 in Section I.D.2 above.

#### 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>4</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 IN NEED OF ATTENTION**

Assessment Team Conclusions

The conclusions of the 2008 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 ANAs PREVIOUSLY IDENTIFIED IN 2007**

<b>NSC/SCWE ANAs Previously Identified in 2007</b>	<b>Assessment Team Conclusions</b>
<p><b>ANA-N-1:</b></p> <p>Management should ensure that Nuclear Safety Priorities and Values are steadfastly and consistently maintained during the conduct of RFO 15. In this regard:</p> <ul style="list-style-type: none"> <li>• Demonstrated alignment from the top through management to supervision in the field is essential.</li> <li>• Communication on the bases/reasons for decisions that could be perceived by the workforce as potentially compromising Nuclear Safety should be timely and effective.</li> </ul>	<p>All sources of input indicate that the actions taken were Effective.</p>
<p><b>ANA-N-2:</b></p> <p>There is a continuing need to communicate with the workforce:</p> <ul style="list-style-type: none"> <li>• Regarding DBNPS/FENOC management’s commitment to provide sufficient resources/funding to continue to improve operational performance and equipment condition.</li> <li>• On the budgeting process and how decisions are made/priorities set that balance cost and safety considerations.</li> </ul>	<p>All sources of input indicate that the actions taken were Effective.</p>
<p><b>ANA-N-3:</b></p> <p>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.</p> <p>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.</p>	<p>While actions have been taken to improve this situation, this organization continues to be classified as a Priority 2 outlier organization in 2008.</p>

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<p><b>ANA-N-4:</b></p> <p>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.</p> <p>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.</p>	<p align="center">All sources of assessment input indicate that the actions taken were Effective.</p>
<p align="center"><b>GCWE/LMS ANAs Previously Identified in 2007</b></p>	<p align="center"><b>Assessment Team Conclusions</b></p>
<p><b>ANA-G-1:</b></p> <p>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.</p>	<p>While actions have been taken to improve this situation, this issue continues to represent a significant source of frustration within the Maintenance organizations.</p>
<p><b>ANA-G-2:</b></p> <p>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.</p> <p>The survey write-in comments and the personnel interviews confirmed that GCWE/LMS-related issues within this organization warrant additional management attention.</p>	<p align="center">All sources of input indicate that the actions taken were Effective.</p>

## 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>5</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>5</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>6</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

### **II.B General Culture & Work Environment**

The 2008 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>7</sup>:

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<sup>6</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 result in the identification of additional findings beyond those identified in this Report.

<sup>7</sup> The results of the assessment of the GCWE are provided in Attachment 3 to this Report.

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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 2008 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>8</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 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 2008 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>9</sup>.

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

The 2008 Independent Assessment of the DBNPS NSC/SCWE included an assessment of the effectiveness of DBNPS corrective actions to address the Areas in Need of Attention that were identified through the 2007 Independent Assessment<sup>10</sup>.

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<sup>9</sup> The results of this assessment are provided in Section IV.B.7 and Section VI of this Report.

<sup>10</sup> The results of this assessment are provided in Section VII of this Report.

### III. ASSESSMENT METHODOLOGY

#### III.A INTRODUCTION

The methodology used in the 2008 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 2008 Independent Assessment of the DBNPS NSC/SCWE, the Assessment Team utilized five diverse sources of input:

- Workforce survey numerical results, including 2007-2008 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

#### 2008 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 187 multiple-rating question sub-parts and 2 opportunities to provide write-in comments.

- 127 question sub-parts were related directly to the NSC:
  - 86 question sub-parts related to NS Values, Behaviors and Practices.
  - 32 question sub-parts related to the SCWE; and
  - 9 question sub-parts related to the effectiveness of the ECP
- 41 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.

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.

#### 2008 Independent Assessment Survey Reliability

It should be noted that the DBNPS 2008 Nuclear Safety Culture Survey instrument and the DBNPS 2007 Nuclear Safety Culture instrument are virtually identical.

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 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*



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*demonstrated that the dimensions for the NSC model were related but, in general, 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 marked the third time in calendar year 2007 that Westat reached favorable conclusions regarding the psychometric properties of SYNERGY Cultural Survey instruments.

Additional information on other characteristics of the DBNPS 2007/2008 Nuclear Safety Culture Survey instrument was provided to DBNPS management on a SYNERGY-proprietary CD-ROM disk as part of the documentation supporting the COIA-SC-2007 Final Report.

### 2008 Survey Administration

Participation in the survey was voluntary but strongly encouraged by FENOC/DBNPS. The survey administration period was from September 4, 2008 through September 19, 2008. 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<sup>11</sup>. 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.

### 2008 Survey Participation<sup>12</sup>

The DBNPS Site Composite Organization survey participation rate was 72%<sup>13</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.

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

- Nuclear Warehousing – 10%
- Other Maintenance Organization – 25%

Due to the lower survey participation rates, interviews were conducted with personnel from the Nuclear Warehousing<sup>14</sup> to determine whether the survey numerical results for that organization

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<sup>11</sup> All workforce personnel interviewed by the Assessment Team indicated that they had been provided ample opportunity to participate in the survey.

<sup>12</sup> Detailed information on survey participation is provided in Attachment 1 to this Report.

<sup>13</sup> Survey participation in 2007 was also 72%.

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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.

### 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>15</sup>.

### Industry Benchmarking and Rating Conventions

The 2008 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 22 Sites with current NSC assessment data (i.e., data obtained within the past 30 months).

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>16</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>14</sup> It was determined that the low survey participation rate in the "Other Maintenance Organization" was solely due to non-participation by 16 janitorial or food service contractors. As a result, the Assessment Team determined that personnel interviews were not necessary for the "Other Maintenance Organization".

<sup>15</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>16</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 2007 Independent Assessment.
- Provided key cultural metric ratings that represent significant or notable decline since the 2007 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

Almost all of the survey questions/cultural attributes evaluated in the 2008 Independent Assessment were previously evaluated in the 2007 Independent Assessment<sup>17</sup>. Accordingly, there is a wealth of 2007-2008 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>18</sup>.

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<sup>17</sup> Of the 187 survey questions used in the 2008 DBNPS NSC Workforce Survey, 185 can be directly trended against the 2007 DBNPS NSC Workforce Survey questions.

<sup>18</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.

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### Confidential Survey Write-In Comments<sup>19</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 26% of the survey participants<sup>20</sup>, which is slightly below industry norms (33%) based on SYNERGY's experience.

There were 327 discrete write-in comments. These comments were reviewed and classified:

- As positive, negative or neutral in nature<sup>21</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>19</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>20</sup> In the 2007 Independent Assessment, 31% of the survey participants provided write-in comments.

<sup>21</sup> 17% of the survey write-in comments were positive in nature, 81% were negative in nature and 2% 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 25% positive and 75% negative. It is noteworthy that the Supply Chain Organization, which accounted for 3% of the survey participants, provided 16% of the total write-in comments and 19% of the negative write-in comments. It is also noteworthy that the Electrical Maintenance Organization, which accounted for 3% of the survey participants, provided 11% of the total write-in comments and 13% of the negative write-in comments. A detailed numerical analysis of the survey write-in comments is provided as Attachment 7 to this Report.

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### Confidential Personnel Interviews<sup>22</sup>

The Assessment Team conducted 152 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 and/or declined survey ratings provided by the three individual DBNPS Functional Organizations that were identified through the 2008 ISCA as Priority level 1 or 2 “organizational outliers” based on industry norms.
- To obtain insights into the underlying reasons for the improved survey ratings provided by one of the two individual DBNPS Functional Organizations that had been identified in the 2007 ISCA as a Priority Level 2 “organizational outlier” based on industry norms.
- To obtain additional information on individual DBNPS Functional Organizations that were identified as “low responding organizations” based on low 2008 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 in Need of Attention identified through the 2007 ISCA.
- 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 2008 survey write-in comments.

The distribution of the 152 personnel interviews by category is provided in Table 13 below.

**Table 13**

<b>INTERVIEW CATEGORY</b>	<b>NUMBER</b>
FENOC Senior Management/FENOC Program Management	9
DBNPS CNRB Members	4
DBNPS Senior Management	6
DBNPS Managers	20
Personnel Responsible for 2007 ANA/OFI Corrective Actions	7
Program/Process Leads (e.g., ECP, SCWERT, OPEX, SA/IA, CAP)	10
Random Samples	96
<b>Total</b>	<b>152</b>

<sup>22</sup> Additional information related to the personnel interviews is provided in Attachment 2 to this Report.

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The distribution of the 152 personnel interviews by Major Functional Organization is provided in Table 14 below.

**Table 14**

MAJOR ORGANIZATION	TARGETED	RANDOM
FENOC Senior Management/Program Management	9	0
DBNPS CNRB Members	4	0
Site VP Organizations	9	16
Director of Site Operations Organizations	7	30
Director of Site Maintenance Organizations	6	28
Director of Site Engineering Organizations	6	13
Director of Site Performance Improvement Orgs.	12	4
Director of Outage & Work Management	3	5
<b>Total</b>	<b>56</b>	<b>96</b>

The distribution of the 96 randomly-selected personnel interviews by Functional Organization is provided in Table 15 below.

**TABLE 15**

FUNCTIONAL ORGANIZATION	RANDOM INTERVIEWS
Site Protection/Security	8
Shift Operations	7
Operations Services	4
Radiation Protection Organizations	5
Chemistry	5
Supply Chain	9
Electrical Maintenance	7
I&C Maintenance	7
Mechanical Maintenance	4
FIN Maintenance	3
Maintenance Services	4
Work Planning	3
Plant Engineering	4
Design Engineering	4
Technical Services Engineering	5
Training	4
Nuclear Oversight	6
Outage & Work Management	5
Other Site VP Organizations	2

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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 2008 Confirmatory Order Independent Assessments and associated (selected) Condition Reports (i.e., Operations Performance, Engineering Programs Effectiveness and the Corrective Action Program Implementation)
- 2008 Focused and Snapshot Self-Assessments and associated (selected) Condition Reports
- 2008 Section Integrated Performance Assessments and associated (selected) Condition Reports
- 2008 Annual Self-Assessment of the NSC and associated Condition Reports
- 2008 DBNPS SCWE Survey Results and associated Condition Reports
- 2008 FENOC/DBNPS Nuclear Oversight Quarterly Audit Reports
- 2008 NRC Inspection Reports for DBNPS
- 2008 Employee Concerns Program Status Reports
- 2008 Operating Experience Program Status Reports
- 2008 Operational Decision Making Issue (ODMI) Reports
- 2008 Problem Solving and Decision Making (PSDM) Reports
- 2008 CNRB Meeting minutes and associated correspondence
- 2008 CNRB Sub-Committee Meeting minutes and information packages (selected)
- 2008 DBNPS Nuclear Oversight NSC/SCWE Survey & Interview Results
- FENOC/DBNPS Industry Benchmarking Database
- 2008 DBNPS 4Cs Meeting Minutes and Survey Results
- 2008 DBNPS Excellence Plan
- 2008-2012 FENOC Business Plan
- FENOC/DBNPS Management Incentives
- FENOC/DBNPS Key Performance Indicators
- DBNPS Monthly Performance Indicator Reports
- Condition Reports related to the ANAs resulting from the 2007 Independent Assessment
- Notifications related to the OFIs resulting from the 2007 Independent Assessment
- The September, 2008 DBNPS Mid-Cycle Assessment conducted by the Corporate Assessment Team (CA-SA-08-052)
- Condition Reports reviewed by the DBNPS CNRB in preparation for the October, 2008 CBRB Meeting
- Condition Reports related to significant events or findings at DBNPS in 2008
- Plant Health Committee meeting minutes
- Representative sample of 2008 mid-year individual Performance Evaluations
- SCWERT logs
- Integrated Staffing Plan and vital hire program status information

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### Behavioral Observations

The Assessment Team performed the following behavioral observations during the conduct of the 2008 Independent Assessment:

- November 2008 Annual DBNPS Self-Assessment of the Nuclear Safety Culture
- October 2008 DBNPS CNRB meetings
- October 2008 DBNPS CNRB Sub-Committee meetings
- Multiple DBNPS Management Alignment and Ownership Meetings and MRB Meetings in October 2008
- CARB Meeting in October 2008
- Monthly Supervisor Briefing in October 2008
- Multiple Work Management meetings in October 2008
- Multiple Field Observations of Maintenance in October 2008 (including supervisor briefings, pre-job briefs and conduct of maintenance) – I&C Maintenance, Electrical Maintenance and Mechanical Maintenance
- Multiple Field Observations of Operations in October 2008 (including shift turnovers, control room activities)
- Plant Health Committee Meeting in October 2008
- Senior Training Advisory Committee Meeting in October 2008



## 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the Overall Nuclear Safety Culture is 4.28, 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 2007 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 127 discrete survey questions/cultural attributes. Of these, 100% 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 NSC components, sub-components and sub-areas individually.

2007-2008 trending information is available for 125 of the 127 NSC cultural attributes. Of these, 116 attributes showed some level of improvement since the 2007 Independent Assessment:

- 3 showed notable improvement ( $\geq 5\%$  and  $< 10\%$ )
- 27 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 86 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )
- 9 showed minimal decline ( $\geq 0.0\%$  and  $< 2.5\%$ )

#### SURVEY WRITE-IN COMMENTS<sup>23</sup>

Of the total 327 discrete survey write-in comments received, 130 or 40% were related to the NSC. Of these:

- 34 were positive in nature
- 1 was neutral in nature
- 95 were negative in nature

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<sup>23</sup> A numerical analysis of the survey write-in comments is provided as Attachment 7 to this Report.

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There were 14 comments related to the NSC in general, with 12 being positive in nature and 2 being negative in nature. These comments indicate that the DBNPS NSC is strong and consistently reinforced.

The write-in comments applicable to the individual components and sub-components of the NSC are discussed in the applicable sub-sections of this Report.

### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the Overall NSC:

- Electrical Maintenance – 3.58
- Other Supply Chain Organization (Strategic Supply) – 3.63

Organizations providing Overall NSC ratings showing the most significant declining 2007-2008 trends include:

- I&C Maintenance – (↓17%)
- Other Supply Chain Organization (Strategic Supply) – (↓13%)
- Nuclear Warehousing – (↓7%)
- Electrical Maintenance – (↓6%)
- Mechanical Maintenance – (↓5%)

Organizations providing Overall NSC ratings showing the most significant improving 2007-2008 trends include:

- Work Management – (↑11%)
- Emergency Response – (↑11%)
- Other Site VP Organization – (↑8%)
- Records Management – (↑7%)
- Site Protection/Security – (↑7%)
- Outage Management – (↑7%)
- Reactor Engineering – (↑6%)
- Nuclear Electrical Systems Engineering – (↑6%)

It is noteworthy that:

- Site Protection/Security, which was identified as a localized Area in Need of Attention in 2007, showed notable improvement.
- Electrical Maintenance, which was identified as a localized Area in Need of Attention in 2007, showed notable decline.
- Work Management, which was identified as a localized Opportunity for Improvement in 2007, showed significant improvement.
- Records Management, which was identified as a localized Opportunity for Improvement in 2007, showed notable improvement.

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### 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 three other independent, external Assessment Teams – whose focus was primarily on Nuclear Safety Performance – all concluded that DBNPS Nuclear Safety Performance is Effective.

- In its report of the Independent Assessment of Operations Performance at DBNPS (COIA-CAP-2008 dated June 13, 2008), the Independent Assessment Team concluded that overall Operations performance is Effective.
- In its report of the Independent Assessment of Engineering Programs Effectiveness at DBNPS (COIA-ENG-2008 dated October 3, 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.
- In its report of the Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2008 dated August 11, 2008), the Independent Assessment Team concluded that Davis-Besse's implementation of the CAP is Effective.

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### IV.B NUCLEAR SAFETY VALUES, BEHAVIORS AND PRACTICES (NS VB&P)

#### INTRODUCTION

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

- Standards & 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>24</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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of Overall Nuclear Safety Values, Behaviors & Practices 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 1.9% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

The overall NS VB&P rating is based upon the integration of numerical ratings of 86 discrete survey questions/cultural attributes. Of these, 100% 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 above-mentioned NS VB&P sub-components and topical areas individually.

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<sup>24</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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2007-2008 trending information is available for 84 of the 86 NS VB&P cultural attributes. Of these, 83 attributes showed some level of improvement since the 2007 Independent Assessment:

- 3 showed notable improvement ( $\geq 5\%$  and  $< 10\%$ )
- 25 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 55 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )
- 1 showed minimal decline ( $\geq 0.0\%$  and  $< 2.5\%$ )

The three cultural attributes with notably improved 2007-2008 rating trends were:

- At DBNPS, we properly balance Nuclear Safety, production, schedule and cost priorities as demonstrated by decisions related to planning and execution of plant outages. ( $\uparrow 9.6\%$ )
- At DBNPS, we provide appropriate levels of oversight and control of contractor work activities to ensure that Nuclear Safety is maintained. ( $\uparrow 6.4\%$ )
- Production, cost and schedule goals are developed, communicated and implemented in a manner that reinforces the importance of Nuclear Safety. ( $\uparrow 5.7\%$ )

The one cultural attribute with a nominally declined 2007-2008 rating trend was: “Within my Functional Organization, staffing levels are sufficient to maintain Nuclear Safety and safe plant operations.” ( $\downarrow 0.8$ )

### SURVEY WRITE-IN COMMENTS

Of the total 130 discrete survey write-in comments related to the NSC, 89 or 68% were related to NS VB&P. Of these:

- 22 were positive in nature
- 1 was neutral in nature
- 66 were negative in nature

The write-in comments applicable to the individual components and sub-components of the NSC are discussed in the applicable sub-sections of this Report.

### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of Overall NS VB&P:

- Electrical Maintenance – 3.42
- Other Supply Chain Organization – 3.62

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

- I&C Maintenance – ( $\downarrow 19\%$ )
- Other Supply Chain Organization (Strategic Supply) – ( $\downarrow 11\%$ )
- Nuclear Warehousing – ( $\downarrow 7\%$ )
- Electrical Maintenance – ( $\downarrow 7\%$ )
- Mechanical Maintenance – ( $\downarrow 6\%$ )

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- Document Control – (↓5%)
- Maintenance Services – (↓5%)

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

- Work Management – (↑14%)
- Emergency Response – (↑11%)
- Reactor Engineering – (↑9.5%)
- Outage Management – (↑8%)
- Other Site VP Organization – (↑8%)
- Records Management – (↑8%)
- Site Protection/Security – (↑7%)
- Nuclear Electrical Systems Engineering – (↑7%)
- Work Planning – (↑6%)
- Regulatory Compliance – (↑6%)
- Rapid Response Engineering – (↑5%)

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### IV.B.1 Standards and Expectations for Nuclear Safety (NS S&E)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Standards and Expectations for Nuclear Safety” is 4.40, 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 2007 Independent Assessment. This rating is characterized as Highly Effective.

All seven of the individual “Standards and Expectations for Nuclear Safety” cultural attributes showed minimal improvement (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 Independent Assessment.

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all seven 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. (4.52,  $\uparrow 0.7\%$ , 99.8% positive response)
- Standards and expectations for Nuclear Safety performance are effectively communicated and well understood by the workforce. (4.45,  $\uparrow 1.5\%$ , 99.2% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to, demonstrated and reinforced by supervisors. (4.39,  $\uparrow 1.3\%$ , 98.0% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to by individual workers. (4.32,  $\uparrow 1.0\%$ , 98.0% positive response)
- Peers reinforce standards and expectations for Nuclear Safety performance. (4.32,  $\uparrow 2.0\%$ , 99.0% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to, demonstrated and reinforced by management. (4.31,  $\uparrow 1.6\%$ , 96.8% positive response)
- Standards and expectations for Nuclear Safety performance are consistently adhered to, demonstrated and reinforced by site senior management. (4.30,  $\uparrow 1.3\%$ , 97.1% positive response)

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low rating of NS S&E:

- Other Supply Chain Organization (Strategic Supply) – 3.63

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Organizations that provided NS S&E ratings showing the most significant declining trends include:

- I&C Maintenance – (↓16%)
- Document Control – (↓10%)
- Other Supply Chain Organization (Strategic Supply) – (↓9%)
- Maintenance Services – (↓7%)
- Nuclear Warehousing – (↓7%)
- Operations Training – (↓7%)
- Nuclear Technical Training – (↓6%)
- Nuclear Supply Systems Engineering – (↓6%)
- DB Supply Chain Organization (Tactical Supply) – (↓5%)

Organizations provided Overall NS S&E ratings showing the most significant improving trends include:

- Reactor Engineering – (↑13%)
- Work Management – (↑12%)
- Emergency Response – (↑11%)

### SURVEY WRITE-IN COMMENTS

There were no survey write in comments directly related to the “Standards and Expectations for Nuclear Safety” cultural component.

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

Personnel interviews with the workforce indicate that:

- Nuclear Safety standards and expectations have been effectively communicated to the workforce and have been included in training.
- Nuclear Safety standards and expectations are well understood by the workforce.
- Nuclear Safety standards and expectations are sufficiently high.
- Supervisors, managers and leaders consistently demonstrate and reinforce these standards and expectations through communications and daily interactions.
- Nuclear Safety standards and expectations were consistently maintained during RFO 15.

Personnel interviews, observations and documentation reviews indicate that:

- The DBNPS organization continues to improve in its understanding and use of evolving and increasing industry standards of excellence.
- DBNPS/FENOC senior management, Nuclear Oversight personnel and Corporate Nuclear Review Board members continue to express a view that there is a need to continue to “raise the bar” on standards and expectations as a means to drive the DBNPS to excellence in performance and organizational effectiveness.



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### ASSESSMENT TEAM SUGGESTIONS, 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 “Standards and Expectations for Nuclear Safety” cultural component is Highly Effective.

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### IV.B.2 Nuclear Safety as Top Priority (NSTP)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of "Nuclear Safety as Top Priority" 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 2.3% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

Ten of the eleven individual "Nuclear Safety as Top Priority" cultural attributes with trending information available showed some level of improvement since the 2007 Independent Assessment.

- 2 showed notable improvement ( $\geq 5\%$  and  $< 10\%$ )
- 4 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 4 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )
- 1 showed minimal decline ( $\geq 0.0\%$  and  $< 2.5\%$ )

The two cultural attributes with notably improved 2007-2008 rating trends were:

- At DBNPS, we properly balance Nuclear Safety, production, schedule and cost priorities as demonstrated by decisions related to planning and execution of plant outages. (3.86,  $\uparrow$  9.6%, 92.1% positive response)
- Production, cost and schedule goals are developed, communicated and implemented in a manner that reinforces the importance of Nuclear Safety. (3.79,  $\uparrow$  5.7%, 92.3% positive response)

One attribute showed minimal decline:

- Sufficiency of staffing levels to maintain Nuclear Safety and safe plant operations (3.44,  $\downarrow$  0.8%, 79.2% positive response)

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all eleven of the 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. (4.49,  $\uparrow$  0.4%, 98.2% positive response)

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- Attitudes, behaviors and actions demonstrate that Nuclear Safety and safe plant operations are our primary responsibility and our over-riding priority. (4.37, ↑1.0%, 98.7% positive response)
- The influence of Site senior management in promoting Nuclear Safety priorities by “walking the talk” and leading by example. (4.09, ↑1.6%, 94.9% positive response)
- The influence of Functional Organization management in promoting Nuclear Safety priorities by “walking the talk” and leading by example. (4.12, ↑3.0%, 94.6% positive response)

### New Attribute

One additional NSTP cultural attribute was evaluated through the 2008 ISCA Workforce Survey that had not been previously evaluated in the 2007 ISCA. This cultural attribute/survey question was specifically designed to obtain information on the effectiveness of actions taken to address 2007 ISCA Finding ANA-N-1. This survey question was:

- During the conduct of RFO 15, we maintained Nuclear Safety as our top priority. (4.24, 96.5% positive response)

### Lowest Rated Cultural Attribute

The lowest rated “Nuclear Safety as Top Priority” cultural attribute was “Sufficiency of staffing levels to maintain Nuclear Safety and safe plant operations.” (3.44, ↓0.8%, 79.2% positive response). In fact, this 2008 ISCA cultural attribute received the lowest overall rating by the DBNPS Site Composite Organization. Based on comparing the DBNPS Site Composite survey rating of this cultural attribute against commercial nuclear power plant industry norms, this cultural attribute received a rating in the top quartile of the industry. It should be noted that industry ratings in this area are generally low.

Staffing and perceived adverse impacts of workload on nuclear safety is further addressed in Section IV.B.9 of this Report.

## SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of NSTP:

- Electrical Maintenance – 2.98
- Other Supply Chain Organization (Strategic Supply) – 3.36

Organizations that provided NSTP ratings showing the most significant declining trends include:

- I&C Maintenance – (↓22%)
- Other Supply Chain Organization (Strategic Supply) – (↓17%)
- Electrical Maintenance – (↓14%)
- Mechanical Maintenance – (↓6%)
- Nuclear ALARA/RP Services (↓6%)

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Organizations provided NSTP ratings showing the most significant improving trends include:

- Work Management – (↑15%)
- Emergency Response – (↑14%)
- Outage Management – (↑13%)
- Other Site VP Organizations – (↑11%)
- Reactor Engineering – (↑10%)

### SURVEY WRITE-IN COMMENTS

There were 22 survey write in comments related to the “Nuclear Safety as Top Priority” cultural component. Of these, 5 were positive in nature and 17 were negative in nature.

- The positive comments indicated that Nuclear Safety is the top and overriding priority at DBNPS.
- The negative comments indicated concerns that:
  - Senior management reacted poorly to two operability decisions made by shift operations during the plant restart from RFO 15 (5 comments)
  - Outage schedule and costs takes priority over Nuclear Safety. (4 comments)
  - Schedule takes priority over Nuclear Safety. (4 comments)
  - Budget considerations take priority over Nuclear Safety. (3 comments)

### 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 at Davis-Besse since the reactor vessel head event.
- 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.
- All personnel interviewed indicated that nuclear safety standards and expectations were consistently maintained during RFO 15. Nuclear Oversight personnel indicated that the observations they conducted during the outage supported that nuclear safety standards and expectations were consistently maintained during RFO 15.

### ASSESSMENT TEAM SUGGESTIONS, 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 “Nuclear Safety as Top Priority” cultural component is Highly Effective.

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### IV.B.3 Operational Nuclear Safety (ONS)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Operational Nuclear Safety” is 4.28, 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 2007 Independent Assessment. This rating is characterized as Highly Effective.

Of the 28 “Operational Nuclear Safety” cultural attributes with trending information available, 100% showed some level of improvement since the 2007 Independent Assessment.

- 1 showed notable improvement ( $\geq 5\%$  and  $< 10\%$ )
- 6 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 21 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )

The one cultural attribute with a notably improved 2007-2008 rating trend was:

- At DBNPS, we provide appropriate levels of oversight and control of contractor work activities to ensure that Nuclear Safety is maintained. (3.83,  $\uparrow 6.4\%$ , 91.4% positive response)

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 28 of the 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. (4.52,  $\uparrow 0.7\%$ , 99.8% positive response)
- Effective implementation of measures and controls to ensure the radiological safety of the workforce. (4.41,  $\uparrow 1.7\%$ , 99.7% positive response)
- Operations, maintenance and modifications are conducted in accordance with the licensing and design bases. (4.37,  $\uparrow 0.4\%$ , 99.5% positive response)
- Decisions and actions taken to address issues affecting Nuclear Safety and safe plant operations are appropriately conservative. (4.28,  $\uparrow 2.0\%$ , 98.5% positive response)
- We anticipate operational risks associated with planned work activities and take appropriate precautions. (4.24,  $\uparrow 2.9\%$ , 98.8% positive response)
- We proceed with caution and conservatism in the face of uncertainty or unexpected conditions. (4.23,  $\uparrow 2.0\%$ , 98.3% positive response)

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### New Cultural Attribute

One additional ONS cultural attribute was evaluated through the 2008 ISCA Workforce Survey that had not been previously evaluated in the 2007 ISCA. This cultural attribute/survey question was specifically designed to obtain information on the effectiveness of actions taken to address 2007 ISCA Finding ANA-N-1. This cultural attribute/survey question was rated as an “Area of Strength”:

- During the conduct of RFO 15, management effectively communicated the reasons for decisions that potentially or actually affected Nuclear Safety. (4.07, 94.0% positive response)

### Cultural Attributes Related to Human Performance

The DBNPS Composite Site organization’s ratings of NSC/Operational Nuclear Safety cultural attributes related to Human Performance are as follows. These cultural attributes/survey questions were rated as “Areas of Strength”:

- Strict adherence with procedural requirements as a means of assuring Nuclear Safety. (4.49, ↑1.4%, 99.0% positive response)
- Healthy accountability is exercised for adherence to standards and expectations for Nuclear Safety performance. (4.25, ↑2.0%, 96.8% positive response)
- We proceed with caution and conservatism in the face of uncertainty or unexpected conditions. (4.23, ↑2.0%, 98.3% positive response)
- We have high quality procedures and processes that govern activities related to Nuclear Safety and safe plant operations. (4.06, ↑1.2%, 97.3% positive response)
- We maintain our procedures, drawings and calculations consistent with operational practices and the physical plant configuration. (4.02, ↑0.9%, 97.0% positive response)

The DBNPS Composite Site organization’s ratings of GCWE/Conduct of Work cultural attributes related to Human Performance are as follows. These cultural attributes/survey questions were rated as “Areas of Strength”:

- We obtain supervisor/management approval before taking action on matters outside of our normal work procedures and processes. (4.47, ↑1.9%, 99.5% positive response)
- We effectively review our work in progress through self-checking and/or peer checking. (4.14, ↑2.1%, 96.6% positive response)
- We conduct effective pre-job briefings to assure that we are adequately prepared to do our work. (4.04, ↑3.4%, 95.1% positive response)
- We effectively plan our work, including consideration of conditions that could adversely affect human performance. (3.96, ↑3.1%, 94.0% positive response)

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of ONS:

- None identified

Organizations that provided ONS ratings showing the most significant declining trends include:

- I&C Maintenance – (↓18%)
- Other Supply Chain Organization (Strategic Supply) – (↓8%)
- Nuclear Warehousing – (↓8%)
- Mechanical Maintenance – (↓6%)
- Electrical Maintenance – (↓6%)
- Nuclear Technical Training – (↓6%)

Organizations provided ONS ratings showing the most significant improving trends include:

- Work Management – (↑14%)

### SURVEY WRITE-IN COMMENTS

There were 30 survey write in comments related to the “Operational Nuclear Safety” cultural component. Of these, 10 were positive in nature, 19 were negative in nature, and 1 was neutral.

- The positive comments referred to a variety of positive attributes of “Operational Nuclear Safety”.
- The area of Human Performance received 7 comments. Of these, 4 were positive in nature, 2 were negative in nature, and 1 was neutral. The positive comments indicated that the use of human error prevention methods is being reinforced. The negative comments expressed beliefs that:
  - There is insufficient time allocated for maintenance job walk-downs and preparations.
  - Use of all applicable human error prevention tools would result in no maintenance work getting accomplished.
  - In Operations, there is too much focus on the “who” rather than the “why” when human errors occur.
  - The human error prevention tools were not developed by the workers who have to use them.
- The area of conservative decision making/equipment reliability & performance received 4 comments – all negative. These comments referred to management decisions to return the plant to service after RFO 15 with known degraded equipment (i.e., the main condenser boot seal leak, leaking relief valves and safety valves, MFPT control oil oscillations and master trip solenoid valve problems).
- The area of procedure adequacy received 4 comments – all negative. These comments referred to concerns with administrative procedures, such as user-friendliness and level of detail.

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### 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.

#### Human Performance

Over the past year, a number of human performance issues have occurred in several DBNPS organizations, including (but not limited to) Operations, Maintenance, Chemistry and Engineering. DBNPS management has responded to this situation with a number of corrective actions, including increased requirements for peer and independent checking, increased supervisory field observations, training and the creation of a Mispositioning Review Committee.

Personnel interviews of the workforce indicate that:

- Most believe that improvement of human performance is a high priority at DBNPS.
- Some believe that more effort is needed to fully understand the “whys” behind the human performance issues.
- A few believe that management places more emphasis on the “who” rather than the “why” when human errors occur.

As indicated in Section IV.B.5 of this Report, the Assessment Team believes that, at the present time, increased depth of evaluation of human performance events is warranted to ensure that the underlying causes are identified.

The Assessment Team conducted field observations of maintenance work performed by Electrical Maintenance, I&C Maintenance and Mechanical Maintenance. These observations identified inconsistency in the rigorous application of human error prevention methods and in meeting associated management expectations. In this regard:

- During the conduct of field observations of maintenance work activities, human error prevention methods (e.g., the “two-minute drill”, STAR for component identification, place-keeping, peer checks, etc.) were observed to have been effectively utilized during two of the three major work activities observed.
- In the third instance, the Assessment Team’s observations were as follows:
  - A two-minute drill was not conducted. The job supervisor was present in the control room and did not ask or prompt the technicians regarding whether a two-minute drill was performed. In discussion with the supervisor, the supervisor stated that it is an expectation that the 2-minute drill be conducted; but, because the work was being performed in the control room and the technicians also were briefed by the Unit Supervisor, the thought of the 2-minute drill being performed may not have been prevalent in the minds of the technicians.
  - The independent assessor informed the supervisor that the technicians were observed placing a four-wheel cart and chair in front of the cabling supporting the data acquisition and analysis system. The cart was placed there in order for the lead



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technician to have a place to set the procedure and to place keep. However, the lead technician, the other technicians assigned and the supervisor failed to recognize the potential for either the chair or cart to come into contact with the cabling supporting the data acquisition and analysis system. In this instance, situational awareness was not adequately maintained.

- The independent assessor also observed a technician perform a field verification outside of the control room to support the surveillance. The technician was to verify the status of local indicating lights being on or off and document that verification within the surveillance. The technician was observed donning the proper personal protection equipment prior to entering the field. However, the technician did not take the time to perform a two-minute drill in the field. The technician had to stoop under channel iron in one area and walk between piping and plant components to access the other area where the switch position indicating lights were located, which was less than one foot away from other plant equipment. When the technician was performing the steps necessary to document whether the indicating lights were on or off, he failed to point at the light switches he was observing and failed to point and verify the correct indicating lights were being addressed, which would demonstrate the use of human performance verification tools. When questioned, the technician stated his awareness of these two human performance practices but stated he didn't think of performing them at the time.

Similar concerns regarding inconsistent use of human performance tools within the Maintenance organization were identified in the recently-completed FENOC Corporate Assessment Team Mid-Cycle Assessment of DBNPS (CA-SA-08-052).

Based on personnel interviews in Operations, the Assessment Team believes that the lessons learned from past causal evaluations of configuration control events need to be frequently reinforced and refreshed. (Note: The most recent Operations Self-Assessment noted an organizational tendency to step back from long term corrective actions. The Assessment Team suggests that a periodic review of corrective actions to prevent recurrence be conducted.

The 2008 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.)

### Equipment Reliability

Some of the personnel interviewed expressed concerns regarding progress on addressing long-standing equipment issues (e.g., the master solenoid trip valve, the control room emergency ventilation system, etc.).

Concerns regarding long-standing equipment problems were also expressed in the October 2008 CNRB meeting in the context of the need for an increased organizational "sense of urgency".

Similar concerns were identified in the recently-completed FENOC Corporate Assessment Team Mid-Cycle Assessment of DBNPS (CA-SA-08-052).

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Based on personnel interviews, the Assessment Team did not get a strong sense of operational ownership to drive station urgency.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-7) related to recurring operational problems with the Integrated Control System, which continue to be a source of frustration to the Operations organization. The Assessment Team reviewed the actions taken by DBNPS management to address this situation, and found that, due to unintended (and unanticipated) consequences associated with a “stop work” order to an engineering contractor, the schedule for implementation of phase one appears to be in jeopardy. At the time that the Assessment team was on site at DBNPS (October 2008) funding for phase two had not yet been approved.

### Adequacy of Procedures/Procedural Adherence

With the exception of several individuals within the same organization (Chemistry), none of the personnel interviewed indicated that they were experiencing any difficulties in adhering strictly with the procedural requirements that apply to their day-to-day work activities.

- One individual identified an example where software to support instruments used in his duties were changed and the procedure was not revised to reflect the software change.
- One individual identified that his organization has some issues with procedures that are infrequently performed. (There is some tribal knowledge required that is not currently included in the procedures.)
- Several individuals noted that timely issuance of procedure revisions is an area that needs attention.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-10) related to the backlog of procedural changes in Operations. The Assessment Team reviewed the actions taken by DBNPS management to address this situation, and found that a plan is in place to address this situation and progress is being made. This plan relies on each of the operating shifts to own and resolve a set of assigned procedure change requests (generally enhancement in nature). The Assessment Team obtained information through the confidential personnel interviews that suggests that one or more operating shifts may not be in full alignment with Operations management on this approach.

### Communications

Based on personnel interviews with the workforce, the workforce survey results were validated in that all personnel interviewed indicated that management sufficiently and effectively communicated the reasons/bases for key nuclear-safety-related decisions during RFO 15, particularly those decisions that had the potential for being perceived as compromising nuclear safety values, standards and expectations. (One individual indicated that there is room for improvement on communicating the bases for decisions.)

Based on personnel interviews in Operations, the Assessment Team believes that additional, periodic communication on the bases underlying current ODMIs is needed.

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### ASSESSMENT TEAM SUGGESTIONS, FINDINGS AND CONCLUSIONS

#### Assessment Team Suggestions

The Assessment Team suggests that the lessons learned from past causal evaluations of configuration control events in Operations should be frequently reinforced and refreshed.

The Assessment Team suggests increased use of paired observations as part of the DBNPS strategy to improve Human Performance.

The Assessment Team suggests that the lessons-learned from the ICS phase one project be well understood and well communicated.

The Assessment Team suggests that Operations management address the possibility that one or more operating shifts may not be in full alignment with Operations management on the current approach for resolving the Operations procedures backlog issue.

The Assessment Team suggests additional, periodic communication on the bases underlying current ODMIs with Operations shift crews.

#### Assessment Team Findings

One Opportunity for Improvement has been identified (OFI-N-3):

Over the past year, the DBNPS has experienced a number of human performance issues in several organizations. DBNPS management has responded to this situation with a number of corrective actions. It is not clear, however, that these actions alone will be effective over the long term. The Assessment Team believes that:

- The root and contributing causes of these human performance deficiencies must be well understood.
- A comprehensive, integrated human performance improvement strategy (including elements such as expectations, priorities, beliefs, methods, training, accountability, ownership and reinforcement) should be defined with all elements properly aligned. In this regard, consultation with an organization such as Aubrey Daniels is suggested.

#### 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 Effective.

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### IV.B.4 Identification of Potential Nuclear Safety Issues or Concerns (NS ID)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Identification of Potential Nuclear Safety Issues or Concerns” is 4.27, 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 2007 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 some level of improvement since the 2007 Independent Assessment.

- 3 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 6 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )

##### 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. (4.38,  $\uparrow 1.6\%$ , 97.9% positive response)
- Confidence that potential nuclear safety problems will be identified through the CAP (4.37,  $\uparrow 1.5\%$ , 99.3% positive response)
- 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. (4.31,  $\uparrow 1.8\%$ , 96.7% positive response)
- Lack of prior responsiveness by the CAP is NOT having an adverse impact on willingness to identify and pursue resolution of potential Nuclear Safety issues/concerns. (4.30,  $\uparrow 1.7\%$ , 97.0% positive response)
- The overall environment at DBNPS as it affects willingness to report a potential Nuclear Safety issues/concerns. (4.28,  $\uparrow 0.2\%$ , 98.5% positive response)

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- Individual willingness to identify and pursue resolution of potential Nuclear Safety issues/concerns without worrying about increasing workload for others or me. (4.27, ↑2.6%, 97.5% positive response)
- Ability to identify potential NS issues/concerns is not adversely affected by workload. (4.00, ↑2.6%, 94.6% positive response)

### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low rating of NS ID:

- None identified

Organizations that provided NS ID ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓15%)
- I&C Maintenance – (↓15%)
- Nuclear Warehousing – (↓8%)
- Electrical Maintenance – (↓6%)
- Document Control – (↓6%)
- Engineering Analysis – (↓6%)
- Operations Training – (↓5%)
- Business Services – (↓5%)

Organizations provided NS ID ratings showing the most significant improving trends include:

- Reactor Engineering – (↑10%)
- Emergency Response – (↑10%)

### SURVEY WRITE-IN COMMENTS

There were very few (5) survey write in comments related to the “Identification of Potential Nuclear Safety Issues or Concern” cultural component. Of these, 2 were positive in nature and 3 were negative in nature.

- The positive comments focused on the management’s reinforcement of its expectation for individuals to identify safety concerns using the Condition Report process.
- The negative comments did not exhibit a recurring theme.

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

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

- They are willing to identify/report potential nuclear safety issues or concerns.
- They did not know of any conditions under which they would be hesitant to raise a nuclear safety issue or concern.
- They knew of multiple methods of identifying a potential nuclear safety issue or concern, with the primary methods being writing a Condition Report (CR) and/or informing their supervisor. (Note: Security/Site Protection personnel indicated a general preference for informing their supervisor, who would write the CR for them; they also indicated that they do not always have access to computers to enter a CR.)
- They knew how to use the Corrective Action Program. Most have experience in using it.

Exceptions identified through the personnel interviews were as follows:

- One individual indicated that some people may be intimidated by the complexity of the CR process and may choose not to initiate a CR.
- Several noted that outage contractors lack the tools and training for initiating CRs.

With respect to initiation of CRs by outage contractors, the Assessment Team obtained the following additional information:

- A SCWERT representative meets with the major contractors in advance of an outage and identifies the FENOC expectations for maintaining a Safety Conscious Work Environment and for meeting regulatory requirements under the applicable contractor's programs.
- Contractors receive familiarization training during General Employee Training modules
- Specific training is provided to supervisor in major contractor organizations
- Hard copies of blank CR forms are provided for use by contractors.
- In general, the current practice is for contractors to inform their FENOC Project Manager of an issue and then the FENOC manager would initiate the CR.
- Contractors are provided an opportunity during exiting of the site to discuss any safety issues with the ECP representative, and are provided a postage-paid confidential ECP brochure if they want to identify an issue to ECP anonymously.

### ASSESSMENT TEAM SUGGESTIONS, FINDINGS AND CONCLUSIONS

#### Assessment Team Suggestions

DBNPS should evaluate whether the approach taken/methods provided for contractor initiation of CRs is meeting expectations.

No Assessment Team Findings were 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 (NS ER)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns” is 4.13, 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 2007 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 some degree of improvement since the 2007 Independent Assessment.

- 2 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 4 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )

##### 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. (4.40,  $\uparrow 2.1\%$ , 98.5% positive response)
- Supervisors ensure that Nuclear Safety issues or concerns are resolved in an effective manner. (4.26,  $\uparrow 1.9\%$ , 97.1% 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. (4.02,  $\uparrow 1.8\%$ , 96.1% positive response)
- Ability to effectively resolve potential NS issues/concerns is not adversely affected by workload (4.00,  $\uparrow 2.8\%$ , 93.6% positive response)

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of NS ER:

- None identified

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Organizations that provided NS ER ratings showing the most significant declining trends include:

- I&C Maintenance – (↓19%)
- Nuclear Warehousing – (↓16%)
- Nuclear Technical Training – (↓8%)
- Mechanical Maintenance – (↓8%)
- Document Control – (↓7%)
- Maintenance Services – (↓5%)

Organizations provided NS ER ratings showing the most significant improving trends include:

- Work Management – (↑16%)
- Emergency Response – (↑16%)
- Records Management – (↑13%)
- Engineering Analysis – (↑13%)
- Reactor Engineering – (↑11%)
- Other Site VP Organizations – (↑10%)

### SURVEY WRITE-IN COMMENTS

There were very few (5) survey write in comments related to the “Effectiveness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural component. Of these, 1 was positive in nature and 4 were negative in nature. No recurring themes were identified.

### 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.
- The vast majority indicated that they were satisfied with the manner in which their concern was treated and resolved. Some noted that they receive an e-mail notification of how their issue was resolved and that they could challenge the resolution if warranted.

Exceptions identified through the personnel interviews were as follows:

- One individual expressed concern that in the SAP system there are more than 4000 notifications without owners or tracking. This same individual indicated that he felt that the process had not been effective in dealing with some issues. In support of this view, he noted some instances where he believed that not all Corrective Actions were implemented and a few instances where he believed that issues regarding personnel qualifications were inappropriately resolved.



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Based on documentation reviews, observations and personnel interviews the Assessment Team obtained the following information and perspectives:

- At its October 2008 meeting, the DBNPS CNRB expressed a number of concerns regarding the effectiveness of several specific causal determinations and associated corrective actions. They strongly encouraged DBNPS management to ensure that the organization demonstrates a higher degree of “questioning attitude” in pursuing the underlying cause(s) of identified issues.
- The Assessment Team reviewed the same set of Condition Reports/Corrective Actions as the CNRB and reached similar conclusions, particularly in the context of seeking excellence in organizational effectiveness.
- Similar concerns were identified in the recently-completed FENOC Corporate Assessment Team Mid-Cycle Assessment of DBNPS (CA-SA-08-052).
- The Assessment Team believes that the DBNPS organization may be overly “rule-based” in its approach to the degree to which it evaluates the underlying cause(s) of issues processed through the Corrective Action Program. There are certain circumstances in which doing “more than is required” could be very beneficial in terms of obtaining a better understanding of underlying cause(s). (At the present time, it appears that evaluations of human performance problems may be one of those circumstances.)
- In its COIA-SC-2007 Final Report, the Assessment Team identified 6 Findings that were classified as Areas In Need of Attention. DBNPS management decided to process these Findings through the CAP even though DBNPS/FENOC procedures did not require them to do so. This is a positive example of doing more than is required.

Based on documentation reviews and personnel interviews the Assessment Team identified that FENOC root cause evaluation guidelines do not require consideration of safety culture attributes. The Assessment Team considers this to be inconsistent with best industry practices.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-4) to further enhance the effectiveness of evaluating and addressing “soft” (i.e., cultural) issues whether self-identified or identified through external assessments such as the 2007 ISCA. The Assessment Team reviewed the actions taken by DBNPS management to address this opportunity in the context of its processing of the “soft” Findings presented in the COIA-SC-2007 Final Report and found that the actions taken were appropriate.

### ASSESSMENT TEAM SUGGESTIONS, FINDINGS AND CONCLUSIONS

#### Assessment Team Suggestions

The Assessment Team suggests that DBNPS consider identifying circumstances in which a doing “more than is required” philosophy would be applied in order to obtain a better understanding of underlying cause(s) of events.

The Assessment Team suggests that DBNPS/FENOC specifically consider safety culture attributes as part of the evaluation of Root Causes.

#### Assessment Team Findings:

None identified.

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### 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 Effective.

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### IV.B.6 Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns (NS TR)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns” is 4.16, 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 2007 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 some degree of improvement since the 2007 Independent Assessment.

- 2 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 3 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )

##### 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. (4.44,  $\uparrow 2.2\%$ , 97.8% positive response)
- Supervisors and managers ensure that Nuclear Safety issues or concerns are resolved in a timely manner. (4.26,  $\uparrow 1.9\%$ , 97.1% positive response)
- Confidence that the Corrective Action Program will ensure that potential Nuclear Safety problems are appropriately prioritized. (4.09,  $\uparrow 2.7\%$ , 97.3% positive response)
- Confidence that the Corrective Action Program will ensure that potential Nuclear Safety problems are addressed in a timely manner. (3.92,  $\uparrow 2.3\%$ , 93.6% positive response)

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided low ratings of NS TR:

- Electrical Maintenance – 3.38

Organizations that provided NS TR ratings showing the most significant declining trends include:

- I&C Maintenance – (↓19%)
- Nuclear Warehousing – (↓15%)
- Other Supply Chain Organization (Strategic Supply) – (↓8%)
- Nuclear Technical Training – (↓8%)
- Maintenance Services – (↓6%)
- Operations Training – (↓6%)
- Mechanical Maintenance – (↓6%)

Organizations provided NS TR ratings showing the most significant improving trends include:

- Work Management – (↑14%)
- Emergency Response – (↑12%)
- Records Management – (↑11%)
- Engineering Analysis – (↑10%)

### SURVEY WRITE-IN COMMENTS

There were very few (2) survey write in comments related to the “Timeliness of Resolution of Identified Nuclear Safety Issues or Concerns” cultural component. Of these, 1 was positive in nature and 1 was negative in nature. No recurring themes were identified.

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS AND DOCUMENTATION REVIEWS

A few individuals noted that, in general, timeliness of resolution of clear nuclear safety-related issues is very good; however, non-nuclear safety related issues or non-safety equipment issues can remain open for extended periods of time.

### ASSESSMENT TEAM SUGGESTIONS, 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 (NS CI)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Continuous Improvement of Nuclear Safety Performance” is 4.14, 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 2007 Independent Assessment. This rating is characterized as Highly Effective.

All 13 of the individual “Continuous Improvement of Nuclear Safety Performance” cultural attributes showed some degree of improvement since the 2007 Independent Assessment.

- 6 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 7 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 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. (4.53,  $\uparrow 2.2\%$ , 99.1% positive response)
- Importance is placed on improving Nuclear Safety performance. (4.32,  $\uparrow 1.5\%$ , 98.6% 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. (4.14,  $\uparrow 2.0\%$ , 97.4% positive response)
- Performance indicators and metrics are used effectively to improve our Nuclear Safety performance. (4.10,  $\uparrow 2.6\%$ , 96.0% positive response)
- Ensuring that the lessons learned from events (both industry and DBNPS) are communicated in a timely manner to affected personnel. (4.09,  $\uparrow 0.2\%$ , 97.5% 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.” (3.72, ↑2.3%, 89.4% positive response)

Based on comparing the DBNPS Site Composite survey rating of these cultural attributes against commercial nuclear power plant industry norms, these cultural attributes are perceived by the workforce to be an “Area of Strength”.

### Inherent Trend Cultural Attributes

The 2008 Independent Assessment workforce survey included three additional “inherent trend” questions designed to obtain information on perceived progress during the past year.

- During the past year, the quality/value of assessments performed by the DBNPS/FENOC Nuclear Oversight organizations has improved. (3.69, 92.0% positive response)  
This rating indicates that the DBNPS workforce perceives that significant improvement has occurred in this area during the past year.
- During the past year, the quality/value of our Section Integrated Performance Assessments has improved. (3.75, 93.3% positive response)  
This rating indicates that the DBNPS workforce perceives that significant improvement has occurred in this area during the past year.
- 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. (3.78, 94.3% positive response)  
This rating indicates that the DBNPS workforce perceives that significant improvement has occurred in this area during the past year.

### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low rating of NS CI:

- Electrical Maintenance – 3.37

Organizations that provided NS CI ratings showing the most significant declining trends include:

- I&C Maintenance – (↓18%)
- Other Supply Chain Organization (Strategic Supply) – (↓13%)
- Nuclear Warehousing – (↓8%)
- Engineering Analysis – (↓↑7%)
- Maintenance Services – (↓7%)
- Electrical Maintenance – (↓6%)
- Document Control – (↓6%)

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Organizations provided NS CI ratings showing the most significant improving trends include:

- Work Management – (↑13%)
- Reactor Engineering – (↑11%)
- Nuclear Procedures Control – (↑11%)
- Nuclear Oversight/QC/ECP – (↑10%)

### SURVEY WRITE-IN COMMENTS

There were 11 survey write in comments related to the “Continuous Improvement of Nuclear Safety Performance” cultural component. Of these, 3 were positive in nature and indicated that the organization seeks continued performance improvement in a variety of ways. The other 8 comments were negative in nature, including statements of belief that:

- Section IPAs could be more effective if there was more emphasis placed on the lessons to be learned than on the final grade/rating.
- Nuclear Oversight needs to be more effective in driving the DBNPS organization to excellence.

### 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.

#### Organization Self-Criticalness (General)

Personnel interviews with the workforce indicated that the vast majority believe that their organization is sufficiently self-critical of its performance. Personnel interviews with DBNPS and FENOC senior management and DBNPS CNRB members indicated that they feel that DBNPS needs to become more self-critical and needs to seek out and internalize higher standards of excellence.

In the recently-completed FENOC Corporate Assessment Team Mid-Cycle Assessment of DBNPS (CA-SA-08-052), the Assessment Team noted that: “The station has made significant improvements in performance and has received the Most Improved Station Award from INPO two evaluations in a row. Station personnel are taking great comfort and pride in the improvements made. The change in performance and improvements from the past were frequently cited by personnel during interviews. However, a forward looking organization needs to examine the gaps to excellence in order to take the station to the next level.”

In its COIA-SC-2007 Final Report, the NSC/SCWE Assessment Team noted that DBNPS is at the point of needing to transition to becoming increasingly self-reliant in its quest for continuous improvement and performance excellence. At that time, the Assessment Team expressed its belief that the “Performance Improvement Model & Implementation Process (DBBP-RC-0009)” could serve as an engine to drive this transition and encouraged its continued use by the DBNPS management team. In reviewing the status of actions taken by DBNPS to continue to use this process to critically assess organizational effectiveness, the Assessment Team determined that this process was not used in 2008 and that there are tentative plans to use it in 2009.

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### Self-Assessments

DBNPS performs snapshot self-assessments and focused self-assessments in accordance with NOBP-LP-2001, "FENOC Self Assessment/Benchmarking Practice." Through 2008, the self-assessment schedule has been 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 perceives the need for performance validation or adjustment.
- "Focused" assessments are typically performed to evaluate a program, process, or activity against specific criteria. Focused Self-Assessments are performed using a formally established methodology that includes elements of scheduling, planning, conduct, evaluation, and reporting. Focused assessments use external peers in conduct of the assessment to obtain industry benchmarking insights.

Personnel interviews and documentation reviews indicate that:

- Approximately 50 "snapshot" self-assessments will have been conducted in 2008.
- Approximately four "focused" self-assessments will have been conducted in 2008.
- INPO Principles and Objectives are not specifically used in measuring gaps to excellence. Site standards and measures are used.
- It does not appear that external or internal OE is reviewed in the preparation stage for planning the conduct of these assessments.

In addition to DBNPS self-assessments, there are FENOC Fleet Focused Assessments, through which performance is assessed across all fleet organizations utilizing a common assessment plan with the intent to provide not only a critical process evaluation for the lead plant but also for the other FENOC plants. The Fleet Corporate Assessment Team also performs assessments of individual FENOC plants, such as the recently completed Mid-Cycle Assessment of DBNPS.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-2) to further enhance overall organizational effectiveness by establishing a multi-year, integrated self-assessment plan that is sufficiently flexible to address unanticipated or emerging performance assessment needs. In reviewing the status of actions taken by DBNPS to act on this opportunity for improvement, the Assessment Team determined the following:

- DBNPS has not yet established an integrated, multi-year strategic program or plan for the scheduling and conduct of self-assessments.
- FENOC is in the process of developing a fleet-wide, integrated, multi-year self-assessment program/plan/schedule, which is expected to be available by the end of 4Q 2008. It appears that this will include assessments conducted by both the Fleet and the three Sites. It is noteworthy that DBNPS's input to this plan proposed only 4 focused assessments for 2009.



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The Assessment Team believes that the strategic integrated plan/schedule for assessment activities should also include Nuclear Oversight audits and performance-based assessments to minimize duplication of efforts and to optimize the overall coverage of assessments.

### Integrated Section Integrated Performance Assessments (IPAs)

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 DNBPS management team is a significant contributor to ensuring rigor and quality.

Personnel interviews and documentation reviews indicated that:

- Most believe that the IPAs continue to be helpful in identifying continuous improvement needs and opportunities.
- Recent Section IPAs vary in quality (in terms of perceived self-criticalness) from adequate to very good.
- A few feel that the IPA process is becoming too mechanistic; they suggest a better balance between quantitative and qualitative assessment elements.
- A few feel that the IPA process is a lot of work for little value-added.

At its October 2008 meeting, the DNBPS CNRB expressed the view that some Section IPAs were not sufficiently self-critical.

### Quarterly & Annual DNBPS Self-Assessments of Nuclear Safety Culture

In accordance with FENOC Fleet Business Practices, the DNBPS management team conducts quarterly and annual self-assessments of the DNBPS Nuclear Safety Culture. These self-assessments are conducted through collegial meetings of the entire DNBPS management team. The Assessment Team reviewed documentation associated with these self-assessments and for the third consecutive year observed the conduct of the annual self-assessment.

The Assessment Team commends FENOC/DBNPS for its efforts to conduct meaningful self-assessments of the Nuclear Safety Culture at DNBPS. The quarterly and annual assessments are clearly beneficial. The Assessment Team believes that the primary value comes from the interactive discussions of the individual elements of the safety culture. The Assessment Team also continues to believe that opportunities exist to improve the process/practice for the conduct of these self-assessments. The Assessment Team has identified its suggestions for improvement in Finding OFI-N-6 (see below). This is, for the most part, a repeat Finding from the 2006 and 2007 ISCA's.

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### Management Observation Program (MOP)

Personnel interviews management, supervision and the workforce indicated that:

- DBNPS would benefit from a more consistent, more effective and more “critical” MOP.
- Observations are now expected to be more “critical” in nature.
- There are varying interpretations of what “critical” means. Senior site management appears to support an interpretation that observations should be substantive in nature and should seek to identify opportunities for improvement. Many workforce personnel (including some managers and supervisors) appear to believe that the expectation is for observations to identify “negative” findings that include at least one area that needs improvement or that is considered to be unsatisfactory.
- Paired observations should be used more frequently as a developmental tool for personnel conducting observations.

Personnel interviews with the workforce identified mixed opinions on whether the MOP is effective in reinforcing standards & expectations and in providing the workforce an effective vehicle to communicate to management on difficulties experienced by the workforce in the field.

- Most indicated that the MOP can be an effective tool for reinforcing standards and expectations and, if implemented in accordance with management expectations, can provide an effective vehicle for the workforce to communicate to management on difficulties experienced by the workforce in the field.
- Many indicated that the perceived quality of the observations varies with the experience level of the individual conducting the observation and the individual’s willingness to support two-way communications with those being observed. Some indicated that this continues to be a mixed bag. Some indicated that two-way communications and feedback was very good; others indicated that it was non-existent. Some observers are viewed as providing value, whereas others are viewed as just going through the motions.
- Some questioned “what’s in it for the workforce?”

Personnel interviews with supervision and the workforce indicate that, at this point, the workforce is not reacting badly to the perceived need for “negative” findings. The experience of the Assessment Team members is that, if the MOP is perceived to drift into “discipline space”, the workforce will react negatively to the program.

In the recently-completed FENOC Corporate Assessment Team Mid-Cycle Assessment of DBNPS (CA-SA-08-052), it was noted that the percentage of management observations at DBNPS that are classified as “critical observations” (53%) is the lowest of all three FENOC sites. In that Report, a critical observation is defined as identifying at least one area that needs improvement or is unsatisfactory. (NOTE: This appears to represent either a difference in philosophy between DBNPS and FENOC or an area in need of clarification.)

### Nuclear Oversight Audits & Assessments

The DBNPS Nuclear Oversight organization is encountering a number of challenges related to meeting its desired objective of helping to drive the DBNPS line organizations to higher levels of performance and increased organizational effectiveness. This is particularly the case with respect to the performance-based assessment component of the NOS continuous assessment program.

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Nuclear Oversight Organization management (both locally at DBNPS and at FENOC Corporate) has identified these challenges and is working to address them.

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

- Performing adequately in identifying needs and opportunities for improvement to Site management and to the line organization.
- Seeking to improve its effectiveness in promoting/driving higher performance standards and organizational self-criticalness.
- Experiencing challenges in implementing the performance-based assessment component of its continuous assessment process.
- Generally respected by Site management and the line organizations.

Based on the personnel interviews with the workforce, there is a broad range of opinion related to the perceived value currently being provided by Nuclear Oversight to the line organizations.

- Most would like NOS to become more intrusive and critical to challenge the line organizations to improve their performance. Some feel that NOS is currently sufficiently intrusive and critical. A few feel that NOS is over-critical.
- Some believe that NOS adds value through its audit/compliance-based assessment activities, but that the performance-based assessment activities are not yet adding sufficient value. They see NOS as frequently informing them of issues that they already know about (i.e., “circling bullet holes”) rather than as identifying new opportunities for improvement. Some believe that this is due to mining the same information databases.
- Some feel that NOS has not been sufficiently visible or involved in their functional area. Some noted that they do not see schedules of NOS activities like they used to.
- Some in-plant supervisors and managers would like to have more face-to-face communications with NOS personnel at the completion of their assessment activities.
- At the individual in-plant worker level, there is somewhat of a knowledge gap regarding NOS (i.e., its purpose/function, etc.).

Based on personnel interviews with NOS personnel and associated documentation reviews, the Assessment Team identified that:

- The NOS organization recognizes that improvements are needed in providing critical oversight of line activities, particularly in the area of performance-based assessments.
- NOS Management is actively pursuing such improvements, including changes to assessment functions and the definition of assessors’ roles and responsibilities.
- At the time of this Assessment, there were no defined assessment templates for assessing functional areas. (Note: The Assessment Team believes that this results in a situation that relies too heavily on the competencies of individual assessors to determine the focus and the performance criteria that will be used in conducting the performance-based assessments. This situation also affects FENOC’s ability to ensure consistency in fleet assessments of functional areas.)
- At the time of this Assessment, it was specified that NOS would conduct a performance-based assessment of each site functional area at least once each quarter. There was no

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schedule in place for these performance-based assessment activities, and it appeared that there was no plan to develop such a schedule. (Note: The Assessment Team considers this to be outside of industry norms.) (The audit function was the only NOS organization that had a defined schedule.)

- At the time of this Assessment, a review of the qualifications of the NOS auditors identified that they had no line experience in Engineering, Maintenance, Operations Radiation Protection, or Chemistry. The backgrounds of the auditors were generally in areas such as Security, Fire Protection, Emergency Preparedness, Supply, and Quality Assurance.

### Operating Experience (OPEX)

A weekly OPEX summary report is developed and distributed for review. Expectations are for individuals to read the report for awareness of industry events. Maintenance is expected to use applicable OPEX in their pre-job briefs. OPEX is also used in the performance of Root Cause and Apparent Cause evaluations. It was identified that OPEX is not used in the planning stages for the conduct of self-assessments.

During the conduct of field observations of Maintenance field activities, it was observed that relevant Operating Experience information was included in the work packages, that it was relevant to the work to be performed and that it was discussed during the pre-job briefings.

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 and do not consistently result in a quality product.

A recent corporate assessment was conducted and provided a critical review of the OE program across the Fleet. Areas for Improvements (AFIs) and Noteworthy Items were identified for correction. The AFIs included:

- SOER effectiveness reviews did not demonstrate that recommendations are effectively implemented
- Reports sometimes only reveal an administrative or procedure review
- Internal and external OPEX in work packages were not consistently included and relevant to work packages
- Lack of familiarity with SAP contributes to shortfalls in processing OPEX (screenings and evaluations)

### Industry Benchmarking

Personal interviews and documentation reviews indicated that:

- The DBNPS management team reviews benchmarking activities on at least a monthly basis during the MAOM.

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- During 2008, DBNPS has conducted a number of benchmarking activities in selected areas. These included:
  - Benchmarking performed by the Radiation Protection organization that has resulted in 5 Action Plans designed to close identified gaps to excellent performance.
  - Benchmarking performed by Maintenance to obtain industry experience on Preventative Maintenance Strategy implementation.
  - Benchmarking by the Chemistry organization to obtain information on industry best practices related to primary chemistry instrumentation and analytical methods.
- There was little focus on benchmarking conducted directly by the Operations organization.
- While this Assessment was in progress, there were a series of FENOC Peer Group meetings with counterparts at INPO. In at least some of these meetings, significant benchmarking activities occurred related to industry best practices. The Assessment Team is specifically aware that this occurred in the area of Outage Management.
- A strategic benchmarking plan/program has not yet been developed. The Assessment Team understands that the FENOC Fleet organization is in the process of developing such a plan.

### ASSESSMENT TEAM SUGGESTIONS, FINDINGS AND CONCLUSIONS

#### Assessment Team Suggestions

DBNPS should consider using the INPO Principles and Objectives in the conduct of Focused Self-Assessments as a means to identify/measure gaps to excellence.

DBNPS should consider using internal and external OE in the planning phase of conducting self-assessments.

The strategic integrated plan/schedule for assessment activities should also include Nuclear Oversight audits and performance-based assessments to minimize duplication of efforts and to optimize the overall coverage of assessments.

DBNPS/FENOC management should clarify its expectations to the organization regarding the terms “critical” and “negative” as they apply to the MOP.

#### Assessment Team Findings

The Assessment Team has identified two Opportunities for Improvement related to Continuous Improvement of Nuclear Safety:

- OFI-N-5      The Nuclear Oversight Organization at DBNPS is encountering a number of challenges related to meeting its desired objective of helping to drive the DBNPS line organizations to higher levels of performance and increased organizational effectiveness. This is particularly the case with respect to the performance-based assessment component of the NOS continuous assessment program. Nuclear Oversight Organization management (both locally at DBNPS and at FENOC Corporate) has identified these challenges and is working to address them.

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The Assessment Team believes that the DBNPS Site organization can assist NOS in addressing at least two of these challenges:

- Assisting NOS in obtaining subject matter experts for the performance-based assessment functions who have current/recent line organization experience in the areas they are assessing. This can be accomplished through an effective rotational assignment program between NOS and the DBNPS line organizations.
- Assisting NOS in obtaining current information on industry best practices and highest standards for line organization functions, programs and processes. This can be accomplished by ensuring that the line organizations, particularly the FENOC Peer Groups, provide NOS the information that they are obtaining through benchmarking activities, including interactions with INPO.

OFI-N-6 There continue to be opportunities to enhance the effectiveness of DBNPS management's Annual Self-Assessment of the NSC. (Note that, for the most part, this is a repeat of OFI-N-3 from the 2007 ISCA; significant changes are identified in italics). 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. *FENOC should also consider expansion of the questions/attributes in its annual SCWE survey to obtain information on some of the "missing" attributes.*
- 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 more time for the qualitative discussions suggested above, it is 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. *It is also suggested that, in order to increase the amount of discussion time (which is the most valuable part of the overall process), the individual organization ratings of attributes be provided (filled in) prior to the meeting.*

### 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 room for improvement.

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### IV.B.8 Confidence in the Corrective Action Program for Nuclear Safety Issues (CAP NS)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Confidence in the Corrective Action Program for Nuclear Safety Issues” 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 improved by 2.1% since the 2007 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 low ratings of CAP NS:

- Electrical Maintenance – 3.33
- I&C Maintenance – 3.47

Organizations that provided CAP NS ratings showing the most significant declining trends include:

- I&C Maintenance – (↓19%)
- Nuclear Warehousing – (↓11%)
- Nuclear Supply System Engineering – (↓7%)
- Operations Services – (↓7%)

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- Document Control – (↓6%)
- Business Services – (↓6%)
- Mechanical Maintenance – (↓6%)
- Operations Training – (↓5%)
- Electrical Maintenance – (↓5%)

Organizations provided CAP NS ratings showing the most significant improving trends include:

- Records Management – (↑20%)
- Emergency Response – (↑19%)
- Reactor Engineering – (↑18%)
- Work Management – (↑13%)
- Rapid Response Engineering – (↑12%)

### SURVEY WRITE-IN COMMENTS

Overall, there were very few comments (9) related to the Corrective Action Program. Of these, 1 was positive in nature and 8 were negative in nature. These comments did not exhibit any recurring themes. One noteworthy comment suggested that it would be helpful to communicate periodically (with examples) to the entire organization on how the CAP has been effective in identifying and resolving nuclear safety issues/concerns.

### 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 2008 Independent Assessment of the Corrective Action Program Implementation at DBNPS (COIA-CAP-2008 dated August 11, 2008), that 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 – Effective.
- Evaluation and Resolution of Problems – Effective
- Corrective Action Implementation and Effectiveness – Effective
- Trending Program Implementation and Effectiveness – Highly Effective
- Effect of Program Backlogs – Highly Effective
- Effectiveness of Internal Assessment Activities – Effective
- Effectiveness of Corrective Actions from Previous Independent Assessments of the Davis-Besse Corrective Action Program – Effective

### 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 “Workforce Confidence in the Corrective Action Program for Nuclear Safety Issues” cultural topical area is “Highly Effective.”



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### IV.B.9 Adverse Impacts of Workload on Nuclear Safety<sup>25</sup> (WKLD NS)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “Adverse Impacts of Workload on Nuclear Safety” is 4.08, 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 2007 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 low ratings of WKLD NS:

- Other Supply Chain Organization (Strategic Supply) – 3.25
- Electrical Maintenance – 3.36

Organizations that provided WKLD NS ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓25%)
- Nuclear Supply Systems Engineering – (↓15%)
- Nuclear Warehousing – (↓15%)
- I&C Maintenance – (↓14%)

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<sup>25</sup> Information on adverse impacts of workload not directly related to Nuclear Safety is provided in Attachment 3 to this Report.

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- Nuclear ALARA/RP Services – (↓13%)
- Training Services – (↓9%)
- Document Control – (↓8%)
- Nuclear Technical Training – (↓6%)

Organizations provided WKLD NS ratings showing the most significant improving trends include:

- Electrical/I&C Engineering – (↑18%)
- Work Management – (↑13%)
- Mechanical/Structural Engineering – (↑12%)
- Electrical Systems Engineering – (↑12%)
- Other Site VP Organizations – (↑11%)

### SURVEY WRITE-IN COMMENTS

There were very few (5) write-in comments that linked staffing/workload/resource management issues directly to adverse impacts on nuclear safety. These generally expressed concerns regarding the potential consequences of a “do more with less” approach.

There were significantly more write-in comments related to staffing/workload/resource management issues that expressed concerns regarding potential adverse consequences associated with conduct of work and aging workforce issues. These write-in comments are addressed in Attachments 3 and 4 to this Report.

### ADDITIONAL INSIGHTS FROM PERSONNEL INTERVIEWS AND DOCUMENTATION REVIEWS

Personnel interviews and documentation reviews indicate that:

- Personnel (including management and supervision) in several DBNPS organizations believe that current staffing levels are too low for the organization to fully meet management expectations.
- The approved staffing level for at least one organization (DBNPS Chemistry) may not be commensurate with the roles and responsibilities assigned to that organization.
- In some cases, initiatives to increase staffing levels in specific organizations in anticipation of pending retirement/attrition challenges have been frustrated by unanticipated attrition. I&C Maintenance is an example of this situation.
- Staffing levels are not the only thing that needs to be tracked; the number of qualified and experienced personnel is a more important consideration.
- It takes time to develop appropriately trained and experienced personnel.

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### ASSESSMENT TEAM SUGGESTIONS, FINDINGS AND CONCLUSIONS

#### Assessment Team Suggestions

The Assessment Team suggests that DBNPS management evaluate the status of the staffing plan for NDE testing personnel and ISI Program management.

#### Assessment Team Findings

One Opportunity for Improvement has been identified (OFI-N-4):

Several individual DBNPS Functional Organizations provided particularly low ratings of attributes and metrics related to the adequacy of staffing and the adverse impacts of workload on either nuclear safety or the quality of work/work products. These perceptions and associated issues were also confirmed through the confidential personnel interviews and the survey write-in comments.

The Assessment Team suggests that DBNPS management evaluate each of these situations and take action as appropriate. The organizations that appear to be most affected are:

- Chemistry
- Electrical Maintenance
- Operations Training (the Assessment Team is aware of recent actions taken here)
- Radiation Protection
- I&C Maintenance
- Technical Training (maintenance training)

Additional information is provided in Section II.O of Attachment 3 to 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 included an evaluation of the processes and activities of the DBNPS SCWE Review Team (SCWERT).

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 2008 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the Overall Safety Conscious Work Environment is 4.59, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY's industry database. This rating improved by 0.9% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

The overall SCWE rating is based upon the integration of numerical ratings of 32 discrete survey questions/cultural attributes. All 32 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.

31 of 32 of the individual "Safety Conscious Work Environment" cultural attributes showed some degree of improvement since the 2007 Independent Assessment. One attribute showed very minimal decline ( $\downarrow 0.02\%$ ).

- 2 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 29 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )
- 1 showed minimal decline ( $\geq 0.0\%$  and  $< 2.5\%$ )

### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the Overall SCWE:

- Other Supply Chain Organization (Strategic Supply) – 3.77
- Electrical Maintenance – 4.09
- Nuclear Warehousing – 4.11

Organizations that provided Overall SCWE ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – ( $\downarrow 15\%$ )
- I&C Maintenance – ( $\downarrow 11\%$ )
- Nuclear Warehousing – ( $\downarrow 8\%$ )

Organizations provided Overall SCWE ratings showing significant improving trends include:

- None identified

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### SURVEY WRITE-IN COMMENTS

There were 18 survey write in comments related to the “Safety Conscious Work Environment”. Of these, all 18 were negative in nature.

- 7 of these comments were provided by personnel in the Supply Chain organizations. These expressed concerns regarding the behaviors of off-site management in the FirstEnergy Supply Chain organization and the perceived potential of retaliation for raising issues or pushing back on decisions.
- 3 comments expressed beliefs that off-site FENOC management does not exhibit the same SCWE-related behaviors as expected of personnel at the DBNP Site.
- 2 comments referred to situations where individuals believe that they were retaliated against for speaking out.
- 2 comments referred to “legacy issues” involving perceived retaliation during the 2004 downsizing at DBNPS

Consistent with SYNERGY’s protocols, the details provided in these comments have been redacted as necessary to protect the identity of the commenter and to respect the identity of individuals who may be the subject of allegations provided by commenters. The details associated with these comments have been communicated to the DBNPS Employee Concerns representative for further evaluation as appropriate.

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

Personnel interviews validated the survey results in that:

- None of the personnel interviewed indicated that they had experienced a negative reaction from peers, supervision, management or senior management for having raised a nuclear safety concern in recent times.
- None of the personnel interviewed knew of anyone else receiving a negative reaction from peers, supervision, management or senior management for having raised a nuclear safety concern in recent times. (Four individuals indicated that they are aware of situations that occurred at least 4 years ago that may have involved SCWE-related negative reactions. They indicated that those situations have been resolved.)
- All of the personnel interviewed indicated that both they and their peers 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 SUGGESTIONS, 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 “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 (SCWE I&P)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “SCWE Indicators & Precursors of a Potentially Chilled Work Environment” is 4.54, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.4% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

28 of the 29 individual “SCWE Indicators & Precursors of a Potentially Chilled Work Environment” cultural attributes showed some degree of improvement since the 2007 Independent Assessment:

- 2 showed nominal improvement ( $\geq 2.5\%$  and  $< 5.0\%$ )
- 26 showed minimal improvement ( $\geq 0.0\%$  and  $< 2.5\%$ )
- 1 showed very minimal decline (0.02%)

All 29 attributes were rated as “Areas of Strength”.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low rating of the SCWE I&P:

- Other Supply Chain Organization (Strategic Supply) – 3.96

Organizations that provided SCWE I&P ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓14%)
- I&C Maintenance – (↓8%)
- Document Control – (↓6%)

Organizations provided SCWE I&P ratings showing significant improving trends include:

- Emergency Response – (↑10%)

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### IV.C.1.a Influence of the General Site Environment on the SCWE (I&P SITE)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of the General Site Environment on the SCWE” is 4.38, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 1.8% since the 2007 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 some degree of improvement since the 2007 Independent Assessment.

- 1 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 13 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )

##### 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 2008 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 4.4%. This is the lowest % in SYNERGY’s industry database. The industry mean is 16.0%.
- Individuals have received adequate training on the FENOC Safety Conscious Work Environment Policy. (4.56,  $\uparrow 0.2\%$ , 99.0% positive response)
- Individuals have received adequate training on how to write a Condition Report and get it into the system. (4.51,  $\uparrow 0.9\%$ , 97.8% positive response)
- Individual willingness to self-identify errors. (4.46,  $\uparrow 0.3\%$ , 98.2% positive response)
- Raising and pursuing resolution of potential Nuclear Safety issues or concerns is favorably received at DBNPS. (4.37,  $\uparrow 2.0\%$ , 99.0% positive response)
- The overall DBNPS Site environment as it affects individual willingness and likelihood of reporting potential Nuclear Safety issues. (4.28,  $\uparrow 0.2\%$ , 98.5% positive response)



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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the I&P SITE:

- Other Supply Chain Organization (Strategic Supply) – 3.56
- Electrical Maintenance – 3.65

Organizations that provided I&P SITE ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓21%)
- I&C Maintenance – (↓13%)
- Nuclear Warehousing – (↓8%)
- Nuclear Technical Training – (↓6%)
- Electrical Maintenance – (↓5%)
- Mechanical Maintenance – (↓5%)

Organizations provided I&P SITE ratings showing significant improving trends include:

- Nuclear Electrical Systems Engineering – (↑12%)
- Site Protection/Security – (↑11%)
- Emergency Response – (↑11%)

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### IV.C.1.b Influence of Peers on the SCWE (I&P PEER)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Peers on the SCWE” is 4.67, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 0.1% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

- Both of the two individual “Influence of Peers on the SCWE” cultural attributes showed minimal improvement (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 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,  $\uparrow 0.7\%$ , 97.8% positive response)
- The 2008 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 1.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 4.4%.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low I&P PEER rating:

- Document Control – 3.75

Organizations that provided I&P PEER ratings showing the most significant declining trends include:

- Document Control – ( $\downarrow 20\%$ )
- Human Resources/Communications/L&D – (6%)
- Nuclear Procedures Control – ( $\downarrow 6\%$ )
- I&C Maintenance – ( $\downarrow 8\%$ )

No organizations provided I&P PEER ratings showing significant improving trends.

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### IV.C.1.c Influence of Supervision on the SCWE (I&P SPVR)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Supervision on the SCWE” is 4.62, 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 1.4% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

All 5 of the individual “Influence of Supervision on the SCWE” cultural attributes showed minimal improvement (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 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. (4.44,  $\uparrow 1.4\%$ , 99.3% positive response)
- Raising and pursuing resolution of potential Nuclear Safety issues or concerns is favorably received by my immediate supervisor. (4.44,  $\downarrow 2.2\%$ , 98.8% positive response)
- Willingness to raise or pursue a potential Nuclear Safety issue or concern without worrying about receiving a negative reaction from my supervision. (4.39,  $\uparrow 1.4\%$ , 98.2% positive response)
- The 2008 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 1.9%. This is the lowest % in SYNERGY’s industry database. The industry mean is 5.5%.

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided low a I&P SPVR ratings:

- Document Control – 4.05

Organizations that provided I&P SPVR ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓9%)
- Document Control – (↓7%)

Organizations provided I&P SPVR ratings showing significant improving trends include:

- Emergency Response – (↑13%)

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### IV.C.1.d Influence of Functional Organization Management on the SCWE (I&P MGT)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Functional Organization Management on the SCWE” 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 has improved by 1.5 % since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

All 6 of the individual “Influence of Functional Organization Management on the SCWE” cultural attributes showed some degree of improvement since the 2007 Independent Assessment.

- 1 showed nominal improvement ( $\geq 2.5\%$  and  $< 5\%$ )
- 5 showed minimal improvement ( $\geq 0\%$  and  $< 2.5\%$ )

##### Areas of Strength

Based on comparing the DBNPS Site Composite survey ratings against commercial nuclear power plant industry norms, all 6 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. (4.44,  $\uparrow 1.4\%$ , 99.3% positive response)
- There is an open door to pursue resolution of potential Nuclear Safety issues or concerns through the management chain, if necessary. (4.33,  $\uparrow 1.7\%$ , 98.0% positive response)
- Raising and pursuing resolution of potential Nuclear Safety issues or concerns is favorably received by management in my Functional Organization. (4.36,  $\uparrow 3.3\%$ , 97.8% positive response)
- The 2008 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 2.2%. This is the lowest % in SYNERGY’s industry database. The industry mean is 7.2%.

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low I&P MGT rating:

- Other Supply Chain Organization (Strategic Supply) – 3.74

Organizations that provided I&P MGT ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓19%)
- I&C Maintenance – (↓9%)
- Mechanical Maintenance – (↓6%)
- Document Control – (↓5%)

Organizations provided I&P MGT ratings showing significant improving trends include:

- Site Protection/Security – (↑11%)
- Emergency Response – (↑12%)
- Nuclear Electrical Systems Engineering – (↑10%)

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### IV.C.1.e Influence of Site Senior Management on the SCWE (I&P SRMGT)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Influence of Site Senior Management on the SCWE” is 4.54, 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 0.6% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

3 of the 4 individual “Influence of Site Senior Management on the SCWE” cultural attributes showed minimal improvement (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 Independent Assessment. One attribute showed very minimal decline (0.02%).

##### 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 Site senior management.  
(4.31,  $\uparrow 1.4\%$ , 97.8% positive response)
- Individual willingness to identify or pursue potential NS issues/concerns without worrying about receiving a negative reaction from Site senior management.  
(4.30,  $\uparrow 0.8\%$ , 96.1% positive response)
- The 2008 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 3.4%.

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low I&P SRMGT rating:

- Electrical Maintenance – 3.95

Organizations that provided I&P SRMGT ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓11%)
- I&C Maintenance – (↓9.5%)
- Mechanical Maintenance – (↓7%)
- Electrical Maintenance – (↓6%)
- Document Control – (↓5%)

Organizations provided I&P SRMGT ratings showing significant improving trends include:

- Nuclear ALARA/RP Services – (↑15%)



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

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “SCWE Demonstrated Willingness to Take Appropriate Action” is 4.65, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 0.4% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

All 3 of the individual “SCWE Demonstrated Willingness to Take Appropriate Action” cultural attributes showed minimal improvement (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 Independent Assessment. All 3 attributes are perceived Areas of Strength.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the SCWE DWTA:

- Other Supply Chain Organization (Strategic Supply) – 3.58
- Nuclear Warehousing – 3.90
- Electrical Maintenance – 4.16
- I&C Maintenance – 4.22

Organizations that provided SCWE DWTA ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – ( $\downarrow 16\%$ )
- I&C Maintenance – ( $\downarrow 14\%$ )
- Nuclear Warehousing – ( $\downarrow 12\%$ )

Organizations provided SCWE DWTA ratings showing significant improving trends include:

- Other Site VP Organization – ( $\uparrow 10\%$ )

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### IV.C.2.a DWTA Willingness to Inform (DWTA INF)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “DWTA Willingness to Inform” is 4.72, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 0.2% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

99.3% 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. This is considered to represent an Area of Strength.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the DWTA INF:

- Other Supply Chain Organization (Strategic Supply) – 3.67
- Nuclear Warehousing – 4.00
- Electrical Maintenance – 4.28

Organizations that provided DWTA INF ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓18%)
- I&C Maintenance – (↓13%)
- Nuclear Warehousing – (↓11%)
- Business Services – (↓5%)

Organizations provided DWTA INF ratings showing significant improving trends include:

- Other Site VP Organization – (↑11%)

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### IV.C.2.b DWTA Willingness to Escalate (DWTA ESC)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of “DWTA Willingness to Escalate” is 4.43, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating improved by 0.8% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

96.3% 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. This is considered to represent an Area of Strength.

97.6% 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. This is considered to represent an Area of Strength.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the DWTA ESC:

- Other Supply Chain Organization (Strategic Supply) – 3.30
- Nuclear Warehousing – 3.60
- Electrical Maintenance – 3.82
- I&C Maintenance – 3.87

Organizations that provided DWTA ESC ratings showing the most significant declining trends include:

- I&C Maintenance – (↓7%)
- Nuclear Warehousing – (↓16%)
- Nuclear Procedures Control – (↓11%)
- Mechanical Maintenance – (↓10%)
- Other Supply Chain Organization (Strategic Supply) – (↓8%)
- Human Resources/Comm./L&D – (↓6%)
- Reactor Engineering – (↓6%)

Organizations provided DWTA ESC ratings showing significant improving trends include:

- Emergency Response – (↑19%)
- Nuclear Procurement Engineering – (↑10%)

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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. (4.27, ↑0.7%, 96.1% 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. (4.03, ↑0.8%, 93.2% positive response)

These ratings are considered to represent Areas of Strength.

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the SCWE PDM:

- Other Supply Chain Organization (Strategic Supply) – 3.46
- Electrical Maintenance – 3.47

Organizations that provided SCWE PDM ratings showing the most significant declining trends include:

- Nuclear Warehousing – (↓15%)
- I&C Maintenance – (↓14%)
- Other Supply Chain Organization (Strategic Supply) – (↓13%)
- Electrical Maintenance – (↓9%)
- Operations Training – (↓9%)
- Nuclear Procedures Control – (↓6%)
- Document Control – (↓5%)
- Human Resources/Comm./L&D – (↓5%)
- Work Management – (↓5%)

Organizations that provided SCWE PDM ratings showing significant improving trends include:

- Outage Management – (↑13%)
- Emergency Response – (↑11%)

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### INFORMATION FROM DOCUMENTATION REVIEWS AND PERSONNEL INTERVIEWS

The charter, procedures and controls governing the activities of the SCWERT were reviewed and 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. (DBNPS convenes a SCWERT review for levels of discipline starting with a written reprimand while the other sites convene for discipline levels more severe than a written reprimand.)

The reviews performed by the SCWERT in 2008 were at levels consistent with the specified review thresholds used at DBNPS. Several reviews were performed for issues below the specified thresholds (i.e., for mid-year performance evaluations when performance was rated as partially effective). This is considered to be a good practice.

The SCWERT review questions are consistent with industry practices to ensure that no 10CFR 50.7 issues exist and that the proposed actions are consistent with company policies and past practices. A review of the SCWERT meeting log and subsequent discussions with SCWERT members identified that, out of the 31 issues reviewed by the SCWERT in 2008, only two actions recommended by the line organization were not initially concurred in by the SCWERT. The Assessment Team also verified that the SCWERT team periodically reviews the process used by contractor organizations to discipline or layoff workers who are working at FENOC facilities.

### ASSESSMENT TEAM SUGGESTIONS, FINDINGS AND CONCLUSIONS

The SCWERT Charter, NOBP-LP-2013, includes a statement that the SCWERT shall “periodically assess the collective significance of Safety Conscious Work Environment-related issues identified at the facility ...” While other mechanisms are utilized to periodically review and assess the SCWE at DBNPS (e.g., the annual DBNPS SCWE survey), these reviews and assessments have not been conducted by the SCWERT per se. A Condition Report has been written to document this deviation.

Personnel interviews with the workforce suggest that there is a need to increase awareness and understanding of the SCWERT. (Refer to Section IV.D for an Assessment Team suggestion in this regard.)

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.
- The SCWERT process is being effectively implemented at DBNPS.

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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Effectiveness of the Employee Concerns Program” 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 declined by 0.7% since the 2007 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.

2 of the 9 individual “Effectiveness of the Employee Concerns Program” cultural attributes showed minimal improvement (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 Independent Assessment. The other 7 attributes showed minimal decline (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ).

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organization provided a low rating of the Overall ECP:

- Other Supply Chain Organization (Strategic Supply) – 3.03

Organizations that provided Overall ECP ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓29%)
- I&C Maintenance – (↓17%)
- DB Supply Chain Organization (Tactical Supply) – (↓15%)
- Nuclear Procedures Control – (↓9%)
- Document Control – (↓9%)
- Electrical Maintenance – (↓9%)
- Operations Services – (↓9%)
- Nuclear Procurement Engineering – (↓9%)
- Business Services – (↓9%)

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- Nuclear ALARA/RP Services – (↓8%)
- Configuration Control – (↓7%)
- Maintenance Services – (↓6%)
- Nuclear Warehousing – (↓6%)

Organizations provided Overall ECP ratings showing significant improving trends include:

- Emergency Response – (↑12%)
- Other Site VP Organization – (↑12%)
- Records Management – (↑10%)

### SURVEY WRITE-IN COMMENTS

There were relatively few (9) survey write in comments related to the “Effectiveness of the Employee Concerns Program”. Of these, all 9 were negative in nature.

The comments identified the following concerns with the program:

- Six comments were received from personnel within the Supply Chain organizations. These expressed concerns that individuals may not be willing to use the Employee Concerns Program due to perceived confidentiality and/or conflict of interest issues.
- The remaining three comments did not exhibit a recurring theme.

### ADDITIONAL INFORMATION FROM PERSONNEL INTERVIEWS AND DOCUMENTATION REVIEWS

Personnel interviews with the workforce validated the survey results in that the vast majority of the personnel interviewed were knowledgeable of the ECP and indicated that they would be willing to use it if necessary. The exceptions were few in number and included the following:

- Several individuals in the Supply Chain organization indicated that their willingness to use the ECP had been limited due to perceived confidentiality and/or conflict of interest issues. (Note: This situation no longer exists.)
- Two union employees in separate organizations expressed reservations about using the ECP because it is sponsored by management and reports to management.
- One individual indicated that he was dissatisfied in the past with the resolution of a concern after having been referred to Human Resources by the Employee Concerns Program representative. (Note: He blames the ECP for this experience.)
- One individual indicated that several years ago (legacy issue) the concern that he had taken to the ECP was not handled with an appropriate level of confidentiality.

Documentation reviews, observations and interviews with personnel responsible for the implementation of the ECP indicate that:

- The ECP program is being effectively implemented at DBNPS.
- It has been approximately two years since the ECP representative has visited each site organization to present information on the roles and responsibilities of the ECP function and how confidentiality is maintained (including limitations).
- Based on personal experience while on site, the Assessment Team observed that the site specific General Employee Training (GET) includes little reference to the ECP and to site expectations related to the SCWE.

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### ASSESSMENT TEAM SUGGESTIONS, FINDINGS AND CONCLUSIONS

#### Assessment Team Suggestions

A number of individual DBNPS organizations provided lower or declined ratings of the ECP. In this regard, the Assessment Team suggests that the ECP representative meet with personnel within those organizations to seek to improve their awareness and understanding of the roles, responsibilities and modus operandi of the ECP. It is further suggested that these meetings also seek to improve awareness and understanding of the SCWERT.

The Assessment Team also suggests that:

- Employee Concerns Program marketing materials and communications vehicles be reviewed to ensure that the limitations of identify protection/confidentiality are clearly expressed and that the expectations of clients are properly managed. This review should also address ECP policies and practices related to referring clients to other organizations.
- The site specific General Employee Training should be updated to include more information on the ECP and on expectations related to the SCWE.

#### Assessment Team Findings

None were 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 “Effectiveness of the Employee Concerns Program” cultural component is Highly Effective.



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### IV.D.1 ECP as an Acceptable Alternative Path (ECP AAP)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “ECP as an Acceptable Alternative Path” is 4.02, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has declined by 1.4% since the 2007 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 two individual “ECP as an Acceptable Alternative Path” cultural attributes showed minimally declined ratings (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 Independent Assessment.

- Willingness to raise a potential Nuclear Safety issue or concern through the Employee Concerns Program if not comfortable raising it through normal processes (4.24,  $\downarrow 0.7\%$ , 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. (4.02,  $\downarrow 1.4\%$ , 91.1% positive response)

#### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the ECP AAP:

- Other Supply Chain Organization (Strategic Supply) – 2.83
- Nuclear Procedures Control – 3.30

Organizations that provided ECP AAP ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – ( $\downarrow 37\%$ )
- I&C Maintenance – ( $\downarrow 17\%$ )
- DB Supply Chain Organization (Tactical Supply) – ( $\downarrow 12\%$ )
- Operations Services – ( $\downarrow 12\%$ )
- Business Services – ( $\downarrow 10\%$ )
- Nuclear Supply Systems Engineering – ( $\downarrow 10\%$ )

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- Nuclear Procurement Engineering – (↓9%)
- Configuration Control – (↓7%)
- Rapid Response Engineering – (↓6%)
- Maintenance Services – (↓6%)
- Nuclear Procedures Control – (↓6%)
- Operations Training – (↓5%)

Organizations provided ECP AAP ratings showing significant improving trends include:

- Emergency Response – (↑17%)
- Reactor Engineering – (↑16%)
- Other Site VP Organization – (↑11%)
- Records Management – (↑10%)

### IV.D.2 Overall Confidence in the ECP (ECP CONF)

#### INTRODUCTION

This cultural component measures overall workforce confidence in the Employee Concerns Program at the present time<sup>26</sup>.

#### SURVEY RESULTS – DBNPS SITE COMPOSITE ORGANIZATION

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

Based on the 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Overall Confidence in the ECP” 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 has declined by 0.5% since the 2007 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 minimal decline since the 2007 Assessment.

- Current level of overall confidence in the ECP (3.79, ↓0.5%, 88.0% positive response)

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<sup>26</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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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the ECP CONF:

- Other Supply Chain Organization (Strategic Supply) – 2.67
- Nuclear Procurement Engineering – 2.75
- Nuclear Procedures Control – 2.90
- Electrical Maintenance – 2.94
- Document Control – 3.00
- Mechanical Maintenance – 3.13

Organizations that provided ECP CONF ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓33%)
- DB Supply Chain Organization (Tactical Supply) – (↓24%)
- Nuclear Procurement Engineering – (↓21%)
- Electrical Maintenance – (↓18%)
- Nuclear Procedures Control – (↓14%)
- I&C Maintenance – (↓14%)
- Document Control – (↓11%)
- Nuclear ALARA/RP Services – (↓10%)
- Business Services – (↓9%)
- Engineering Analysis – (↓8%)
- Mechanical Maintenance – (↓8%)
- Operations Services – (↓7%)
- Outage Management – (↓7%)
- Maintenance Services – (↓6%)
- Nuclear Technical Training – (↓5%)

Organizations provided ECP CONF ratings showing significant improving trends include:

- Reactor Engineering – (↑19%)
- Other Site VP Organization – (↑14%)
- Emergency Response – (↑12%)
- Records Management – (↑11%)
- Nuclear Mechanical/Structural Engineering – (↑10%)
- Work Management – (↑10%)

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### IV.D. 3 Bases for Confidence in the ECP (ECP BFC)

#### 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 2008 Independent Assessment workforce survey results, the DBNPS Site Composite rating of the “Bases for Confidence in the ECP” is 4.08, which places the DBNPS in the top quartile of the commercial nuclear power plant Sites in SYNERGY’s industry database. This rating has declined by 0.2% since the 2007 Independent Assessment. This rating is characterized as Highly Effective.

2 of the 6 individual “Bases for Confidence in the ECP” cultural attributes showed minimal improvement (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ) since the 2007 Independent Assessment. The remaining 4 attributes showed minimal decline (i.e.,  $\geq 0\%$  and  $< 2.5\%$ ).

##### 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. (4.25,  $\uparrow 0.4\%$ , 96.6% positive response)
- Belief that the Employee Concerns Program is staffed with competent and trustworthy personnel. (4.11,  $\downarrow 0.9\%$ , 95.4% positive response)
- Belief that the Employee Concerns Program has a high degree of management support. (4.07,  $\uparrow 0.2\%$ , 94.6% positive response)
- Effectiveness of the Employee Concerns Program in evaluating and obtaining resolution of potential Nuclear Safety issues or concerns (3.98,  $\downarrow 0.9\%$ , 93.9% positive response)
- Confidence that the Employee Concerns Program provides and maintains confidentiality to the extent practicable. (3.95,  $\downarrow 1.2\%$ , 92.0% positive response)

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### SURVEY RESULTS – INDIVIDUAL DBNPS FUNCTIONAL ORGANIZATIONS

The following individual DBNPS Functional Organizations provided low ratings of the ECP BFC:

- None

Organizations that provided ECP BFC ratings showing the most significant declining trends include:

- Other Supply Chain Organization (Strategic Supply) – (↓20%)
- I&C Maintenance – (↓19%)
- Nuclear Warehousing – (↓14%)
- Document Control – (↓12%)
- DB Supply Chain Organization (Tactical Supply) – (↓11%)
- Nuclear Procedures Control – (↓9%)
- Training Services – (↓8%)
- Configuration Control – (↓8%)
- Nuclear ALARA/RP Services – (↓8%)
- Operations Services – (↓7%)
- Maintenance Services – (↓7%)
- Business Services – (↓7%)
- Electrical Maintenance – (↓7%)
- Reactor Engineering – (↓6%)
- Nuclear Supply Systems Engineering – (↓5%)

Organizations provided ECP BFC ratings showing significant improving trends include:

- Other Site VP Organization – (↑12%)

## V. ORGANIZATIONAL ANALYSES

### V.A ORGANIZATIONAL ANALYSIS BASED ON NSC NUMERICAL RESULTS<sup>27</sup>

#### Introduction

Numerical survey ratings provided by the 42 individual Functional Organizations at the DBNPS Site were analyzed to identify Functional Organizations that:

- Provided ratings for key NSC cultural metrics<sup>28</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 2007 Independent Assessment
- Provided NSC ratings that represent significant or notable decline since the 2007 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. Ratings that are  $\geq 10\%$  higher, which are considered to be particularly significant, are highlighted in bold.

##### 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>27</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>28</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	2008 RATING			
	NSC	NS VB&P	SCWE	ECP
<b>DBNPS SITE COMPOSITE</b>	4.28	4.20	4.59	3.97
Configuration Control	<b>4.83</b>	<b>4.82</b>	4.95	4.24
Emergency Response	<b>4.77</b>	<b>4.71</b>	4.94	<b>4.81</b>
Outage Management	<b>4.76</b>	<b>4.72</b>	4.93	<b>4.48</b>
Projects	<b>4.76</b>	<b>4.70</b>	4.96	<b>4.72</b>
Regulatory Compliance	<b>4.72</b>	<b>4.66</b>	4.93	<b>4.64</b>
Nuclear Oversight/QC/ECP	4.65	4.57	4.88	<b>4.56</b>
Rapid Response Engineering	4.63	4.55	4.91	4.31
Training Services	4.62	4.52	4.93	<b>4.40</b>
Records Management	4.61	<b>4.63</b>		4.27
Other Site VP Organization	4.60	4.52	4.85	<b>4.51</b>
Electrical/I&C Engineering	4.52	4.43		<b>4.49</b>
Engineering Programs	4.49	4.45		
Nuclear Supply Systems Engineering	4.49		4.85	
Business Services	4.49	4.42		4.19
Nuclear Procurement Engineering			4.84	
Human Resources/Comm./L&O				4.25
Nuclear Technical Training				<b>4.43</b>

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

<b>ORGANIZATION</b>	<b>2008 RATING</b>			
	<b>NSC</b>	<b>NS VB&amp;P</b>	<b>SCWE</b>	<b>ECP</b>
<b>DBNPS SITE COMPOSITE</b>	4.28	4.20	4.59	3.97
Electrical Maintenance	<b>3.58</b>	<b>3.42</b>	<b>4.09</b>	<b>3.31</b>
Other Supply Chain Organization	<b>3.63</b>	<b>3.62</b>	<b>3.77</b>	<b>3.03</b>
I&C Maintenance	3.88	<b>3.75</b>	4.29	3.66
Mechanical Maintenance	3.88	<b>3.76</b>	4.31	<b>3.53</b>
Nuclear Warehouse	3.89	3.83	<b>4.11</b>	3.73
Operations Training	3.93	<b>3.77</b>		
Shift Operations		3.97		3.70
Human Resources/Comm./L&O		3.97		
Nuclear Procedures Control				<b>3.31</b>
Document Control				<b>3.37</b>
Nuclear Procurement Engineering				<b>3.48</b>
Site Protection/Security				3.73
Other Maintenance Organization				3.73



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### Results – 2007-2008 Numerical Rating Trends

#### Rating Trend Patterns by Functional Organizations

Table 15 provides summary information on 2007-2008 numerical rating trend patterns exhibited for key NSC Metrics by the 42 individual DBNPS Functional Organizations.

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

2007-2008 TREND CATEGORY	NUMBER OF ORGANIZATIONS			
	NSC	NS VB&P	SCWE	ECP
Significant Improvement ( $\geq 10\%$ )	2	2	0	3
Notable Improvement ( $\geq 5\%$ )	6	9	7	5
Nominal Improvement ( $\geq 2.5\%$ )	10	10	6	5
Relatively Steady	14	11	21	10
Nominal Decline ( $\geq 2.5\%$ )	5	3	5	5
Notable Decline ( $\geq 5\%$ )	3	5	1	11
Significant Decline ( $\geq 10\%$ )	2	2	2	3
<b>Total</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>

Based on the information provided in Table 15, of the 42 individual DBNPS Functional Organizations:

- For the Overall NSC Rating:
  - 43% showed improving trends
  - 33% remained relatively steady
  - 24% showed declining trends
- For the Overall NS VB&P Rating:
  - 50% showed improving trends
  - 26% remained relatively steady
  - 24% showed declining trends
- For the Overall SCWE Rating:
  - 31% showed improving trends
  - 50% remained relatively steady
  - 19% showed declining trends
- For the Overall ECP Rating:
  - 31% showed improving trends
  - 24% remained relatively steady
  - 45% showed declining trends

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

Individual DBNPS Functional Organizations with ratings of key NSC metrics that represent significant improvement ( $\geq 10\%$ ) or notable improvement ( $\geq 5\%$ ) since the 2007 Independent Assessment of the NSC/SCWE are presented in Table 16 below.

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

ORGANIZATION	2007-2008 TRENDS			
	NSC	NS VB&P	SCWE	ECP
<b>DBNPS SITE COMPOSITE</b>	+1.5%	+1.9%	+0.9%	-0.7%
Work Management	<b>11%</b>	<b>14%</b>	7%	5%
Emergency Response	<b>11%</b>	<b>11%</b>	9.8%	<b>12%</b>
Other Site VP Organization	8%	8%	8%	<b>12%</b>
Records Management	7%	8%	5%	<b>10%</b>
Site Protection/Security	7%	7%	7%	6%
Outage Management	7%	8%	6%	
Reactor Engineering	6%	9.5%		8%
Nuclear Electrical Systems Engineering	6%	7%		
Work Planning		6%		
Rapid Response Engineering		5%		
Regulatory Compliance		6%		
Other Maintenance Organization			5%	
FIN Maintenance				6%
Nuclear Mechanical/Structural Eng				6%

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### Organizations with Significantly or Notably 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 2007 Independent Assessment of the NSC/SCWE are presented in Table 17 below.

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

ORGANIZATION	2007-2008 TRENDS			
	NSC	NS VB&P	SCWE	ECP
<b>DBNPS SITE COMPOSITE</b>	+1.5%	+1.9%	+0.9%	-0.7%
I&C Maintenance	-17%	-19%	-11%	-17%
Other Supply Chain Organization	-13%	-11%	-15%	-29%
Nuclear Warehouse	-7%	-7%	-8%	-6%
Electrical Maintenance	-6%	-7%		-9%
Mechanical Maintenance	-5%	-6%		
Document Control		-5%		-9%
Maintenance Services		-5%		-7%
Davis Besse Supply Chain				-15%
Nuclear Procedures Control				-9%
Operations Services				-9%
Nuclear Procurement Engineering				-9%
Business Services				-9%
Nuclear ALARA/RP Services				-8%
Configuration Control				-7%
Outage Management				-5%

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### V.B ORGANIZATIONAL ANALYSIS BASED ON GCWE & LMS NUMERICAL RESULTS<sup>29</sup>

#### Introduction

Numerical survey ratings provided by the 42 individual Functional Organizations at the DBNPS Site were analyzed to identify Functional Organizations that:

- Provided ratings for key GCWE/LMS cultural metrics<sup>30</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 2007 Independent Assessment.
- Provided GCWE/LMS ratings that represent significant or notable decline since the 2007 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. Ratings that are  $\geq 10\%$  higher, which are considered to be particularly significant, are highlighted in bold.

##### 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>29</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>30</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>2008 RATING</b>			
	<b>GCWE</b>	<b>LMS</b>	<b>QOC</b>	<b>ET&amp;MR</b>
<b>DBNPS SITE COMPOSITE</b>	<b>3.93</b>	<b>3.99</b>	<b>3.98</b>	<b>3.99</b>
Outage Management	<b>4.70</b>	<b>4.64</b>	<b>4.71</b>	<b>4.57</b>
Configuration Control	<b>4.61</b>	<b>4.66</b>	<b>4.66</b>	<b>4.67</b>
Regulatory Compliance	<b>4.56</b>	<b>4.71</b>	<b>4.72</b>	<b>4.71</b>
Training Services	<b>4.40</b>	<b>4.67</b>	<b>4.64</b>	<b>4.71</b>
Projects	<b>4.39</b>	<b>4.45</b>	<b>4.38</b>	<b>4.52</b>
Nuclear Oversight/QC/ECP	<b>4.35</b>	4.24		4.32
Rapid Response Engineering	<b>4.34</b>	<b>4.56</b>	<b>4.54</b>	<b>4.58</b>
Business Services	4.27			4.24
Other Site VP Organization	4.26	4.22	4.18	4.26
Electrical/I&C Engineering	4.17	4.26	4.24	4.28
Engineering Programs	4.16	4.32	4.34	4.30
Nuclear Procedures Control	4.13		4.18	
Records Management		<b>4.41</b>	<b>4.47</b>	4.36
Emergency Response		<b>4.39</b>	<b>4.49</b>	4.29
Nuclear ALARA/RP Services				4.21
Nuclear Technical Training				4.20
Operations Services				4.19
Nuclear Electrical Systems Engineering			4.22	

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

<b>ORGANIZATION</b>	<b>2008 RATING</b>			
	<b>GCWE</b>	<b>LMS</b>	<b>QOC</b>	<b>ET&amp;MR</b>
<b>DBNPS SITE COMPOSITE</b>	<b>3.93</b>	<b>3.99</b>	<b>3.98</b>	<b>3.99</b>
Other Supply Chain Organization	<b>2.77</b>	<b>2.59</b>	<b>2.57</b>	<b>2.61</b>
Electrical Maintenance	<b>3.05</b>	<b>3.20</b>	<b>3.24</b>	<b>3.17</b>
Document Control	<b>3.27</b>	3.79		3.67
Mechanical Maintenance	<b>3.29</b>	<b>3.27</b>	<b>3.31</b>	<b>3.22</b>
Operations Training	<b>3.54</b>	<b>3.59</b>	<b>3.55</b>	3.63
I&C Maintenance	3.60	3.66	3.65	3.68
Nuclear Warehouse	3.61	<b>3.44</b>	<b>3.38</b>	<b>3.50</b>
Maintenance Services	3.69	3.76	3.74	3.78
Reactor Engineering		3.61	3.59	3.62
Other Maintenance Organization		3.74	3.70	3.77
Davis Besse Supply Chain		3.75	3.71	3.79
Shift Operations		3.78	3.78	3.78

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### Results – 2007-2008 Numerical Rating Trends

#### Rating Trend Patterns by Functional Organizations

Table 20 provides summary information on 2007-2008 numerical rating trend patterns exhibited for key GCWE/LMS Metrics by the 42 individual DBNPS Functional Organizations.

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

2007-2008 TREND CATEGORY	NUMBER OF ORGANIZATIONS			
	GCWE	LMS	QOC	ET&MR
Significant Improvement ( $\geq 10\%$ )	3	3	4	5
Notable Improvement ( $\geq 5\%$ )	13	12	11	12
Nominal Improvement ( $\geq 2.5\%$ )	4	4	3	5
Relatively Steady	10	9	8	8
Nominal Decline ( $\geq 2.5\%$ )	4	5	7	3
Notable Decline ( $\geq 5\%$ )	5	5	5	6
Significant Decline ( $\geq 10\%$ )	3	4	4	3
<b>Total</b>	<b>42</b>	<b>42</b>	<b>42</b>	<b>42</b>

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

- For the Overall GCWE Rating:
  - 48% showed improving trends
  - 24% remained relatively steady
  - 28% showed declining trends
- For the Overall LMS Rating:
  - 45% showed improving trends
  - 22% remained relatively steady
  - 33% showed declining trends
- For the LMS-QOC Rating:
  - 43% showed improving trends
  - 19% remained relatively steady
  - 38% showed declining trends
- For the LMS-ET&MR Rating:
  - 52% showed improving trends
  - 19% 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 ( $\geq 10\%$ ) or notable improvement ( $\geq 5\%$ ) since the 2007 Independent Assessment of the NSC/SCWE are presented in Table 21 below.

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

ORGANIZATION	2007-2008 TREND			
	GCWE	LMS	QOC	ET&MR
<b>DBNPS SITE COMPOSITE</b>	+2.5%	+2.4%	+2.1%	-2.7%
Site Protection/Security	<b>17%</b>	<b>17%</b>	<b>18%</b>	<b>17%</b>
Reactor Engineering	<b>12%</b>	8%	7%	9%
Work Management	<b>11%</b>	7%	6%	8%
Other Site VP Organization	9%	9.5%	8%	<b>11%</b>
Nuclear Mechanical/Structural Eng	8%			
Outage Management	8%	9%	<b>10%</b>	7%
Other Maintenance Organization	8%			6%
Regulatory Compliance	7%	7%	7%	7%
Emergency Response	7%	8%	7%	9%
Rapid Response Engineering	7%	8%	8%	9%
Projects	6%			
Records Management	6%	<b>11%</b>	<b>12%</b>	<b>10%</b>
Configuration Control	6%			5%
Work Planning	6%	8%	8%	7%
Nuclear Procurement Engineering	6%	9.7%	9%	<b>10%</b>
Nuclear Electrical Systems Engineering	6%	6%	7%	5%
Engineering Programs		<b>11%</b>	<b>12%</b>	<b>11%</b>
Shift Operations		6%	7%	
Training Services		5%	5%	5%
FIN Maintenance				5%



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### 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 2007 Independent Assessment of the NSC/SCWE are presented in Table 22 below.

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

ORGANIZATION	2007-2008 TREND			
	GCWE	LMS	QOC	ET&MR
<b>DBNPS SITE COMPOSITE</b>	+2.5%	+2.4%	+2.1%	-2.7%
Other Supply Chain Organization	-33%	-38%	-37%	-40%
Document Control	-20%	-9%	-8%	-9%
I&C Maintenance	-17%	-16%	-16%	-16%
Mechanical Maintenance	-9%	-6%		-7%
Nuclear Warehouse	-8%	-19%	-22%	-16%
Maintenance Services	-8%	-8%	-9%	-7%
Davis Besse Supply Chain	-8%	-6%	-8%	-5%
Operations Training	-5%	-10%	-11%	-9%
Business Services		-5%	-6%	
Nuclear Procedures Control				-6%
Chemistry			-6%	

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### V.C IDENTIFICATION OF DBNPS OUTLIER ORGANIZATIONS BASED ON SURVEY NUMERICAL RATINGS<sup>31</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, Overall GCWE or Overall LMS mean value ratings
- High negative response percentages (i.e., negative pockets) for the Overall NSC, the Overall SCWE, the Overall GCWE or the Overall LMS.
- Notable ( $\geq 5\%$ ) or Significant ( $\geq 10\%$ ) declining trends in Overall NSC, Overall SCWE, Overall GCWE or Overall LMS ratings since the 2007 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 include other information available to DBNPS Site management.

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

- One Priority Level 1 Outlier Organizations
- Two Priority Level 2 Outlier Organization
- Four Priority Level 3 Outlier Organizations
- Three Priority Level 4 Outlier Organizations

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<sup>31</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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In accordance with the 2008 Independent Assessment Plan, the Assessment Team conducted personnel interviews (random selection) with personnel from the Priority Level 1 and 2 “outlier organizations” to determine the underlying reasons for the lower ratings provided by those organizations. 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  
2008 DBNPS SITE OUTLIER ORGANIZATIONS -- INDUSTRY NORMS CRITERIA

OUTLIER ORGANIZATION	NSC Ratings	NSC Pri Lev	SCWE Ratings	SCWE Pri Lev	GCWE Ratings	GCWE Pri Lev	LMS Ratings	LMS Pri Lev	OVERALL PRI LEVEL
Other Supply Chain	3.63 ↓ 13%	2	3.77	1	2.77 ↓ 33%	1	2.59 ↓ 39%	1	1
Electrical Maintenance (Repeat from 2007)	3.58 ↓ 6%	2	4.09	2	3.05 33% neg.	2			2
I&C Maintenance	↓ 16%	2	↓ 11%	2	↓ 17%	2			2
Nuclear Warehousing <sup>32</sup>	↓ 7%	3	4.11 ↓ 8%	3	↓ 8%	3	↓ 19%	2	3
Mechanical Maintenance	↓ 5%	3			↓ 9%	3			3
Document Control					↓ 20%	2	↓ 9%	3	3
Operations Training					↓ 5%	3	↓ 10%	2	3
Maintenance Services					↓ 8%	3	↓ 6%	3	4
Davis-Besse Supply Chain					↓ 8%	3	↓ 6%	3	4
Business Services							↓ 5%	3	4

<sup>32</sup> Low survey participation rate (20%; 2 of 10)

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

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 12 individual Functional Organizations:

- Five Priority Level 1 Outlier Organizations
- One Priority Level 2 Outlier Organization
- Six Priority Level 3 Outlier Organizations
- No 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  
2008 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>LMS Ratings</b>	<b>LMS Outlier</b>	<b>PRIORITY LEVEL</b>
Electrical Maintenance	3.58	Y	4.09	Y	3.05	Y	3.20	Y	1
Other Supply Chain Organization	3.63	Y	3.77	Y	2.77	Y	2.59	Y	1
I&C Maintenance	3.88	Y	4.29	Y	3.60	Y	3.66	Y	1
Mechanical Maintenance	3.88	Y	4.31	Y	3.29	Y	3.27	Y	1
Nuclear Warehouse <sup>33</sup>	3.89	Y	4.11	Y	3.61	Y	3.44	Y	1
Operations Training	3.93	Y			3.54	Y	3.59	Y	2
Document Control			6% neg.	Y%	3.27	Y	3.79	Y	3
Maintenance Services					3.69	Y	3.76	Y	3
Reactor Engineering							3.61	Y	3
Other Maintenance							3.74	Y	3
Davis-Besse Supply Chain					14% neg.	Y%	3.75	Y	3
Shift Operations							3.76	Y	3

<sup>33</sup> Low survey participation rate (20%; 2 of 10)

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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>34</sup>

- Based upon the application of this methodology and the integration of results, no additional individual DBNPS Functional Organizations (beyond those already identified in Section V.C) have been identified as organizational outliers.

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<sup>34</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.

## 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 2008 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.

- 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. 4.14, ↑2.0%, 97.4% positive response – Highly Effective)
- Performance indicators and metrics are used effectively to improve our Nuclear Safety performance. (4.10, ↑2.6%, 96.0% positive response – Highly Effective)
- Effectiveness in addressing and resolving areas of organizational weakness that have been identified by independent assessment groups. (4.00, ↑3.7%, 94.1% positive response – Highly Effective)
- Effective processes are in place to self-identify organizational weaknesses related to Nuclear Safety performance. (3.99, ↑3.0%, 97.2% positive response – Highly Effective)
- Effectiveness in addressing and resolving self-identified areas of organizational weakness related to Nuclear Safety performance. (3.91, ↑2.7%, 95.1% positive response – Highly Effective)
- Line organization self-assessments are effective in improving our Nuclear Safety performance. (3.91, ↑3.6%, 94.0% positive response – Highly Effective)
- Self-assessment recommendations are implemented in a timely manner (consistent with their significance). (3.90, ↑3.7%, 94.2% positive response – Highly Effective)
- Importance placed upon actively seeking out new ideas and best practices from other nuclear sites or organizations. (3.72, ↑2.3%, 89.4% positive response – Highly 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 3.75, 93.3% 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 3.69, 92.0% 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 3.78, 94.3% 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.

### **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.

Two Opportunities for Improvement have been identified and are documented in Section IV.B.7 of this Report. Additional Assessment Team suggestions are also been presented in Section IV.B.7 of this Report.

## VII. EFFECTIVENESS OF CORRECTIVE ACTIONS TAKEN TO ADDRESS NSC/SCWE AREAS IN NEED OF ATTENTION IDENTIFIED IN THE 2007 INDEPENDENT ASSESSMENT

### Introduction

The Assessment Team assessed the effectiveness of corrective actions taken by DBNPS/FENOC to address the Findings identified in the 2007 Independent Assessment of the NSC/SCWE that were classified as Areas in Need of Attention (ANA)<sup>35</sup>. The Assessment Team evaluated available information related to each Finding, including:

- Actions taken by DBNPS to address the ANA 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 ANAs through the CAP and with personnel knowledgeable of other actions taken outside of the context of the CAP.
- The 2008 DBNPS Independent Assessment workforce survey results related to the ANA.
- Personnel interviews, including interviews with personnel in organizations that were identified as localized ANAs in 2007.

The results of the Assessment Team's assessment are presented below.

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<sup>35</sup> It should be noted that there were no Findings identified in the 2007 Independent Assessment of the NSC/SCWE that were classified as Areas for Improvement (AFI). DBNPS Management made the conservative decision to treat the Findings identified as ANAs as if they were classified as AFIs.

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### 2007 ISCA FINDING ANA-N-1

#### Statement of the Finding:

*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.*

#### Background:

This Finding was processed through the DBNPS Corrective Action Program as CR 08-38795. The CR and its attachments detail the actions taken both before and during RFO 15 to reinforce Nuclear Safety as Top Priority. There was a significant focus on communications through a variety of vehicles throughout the conduct of the outage.

#### Evaluation:

Ratings of the following cultural attributes/survey questions indicate that the corrective actions taken were effective:

- At DBNPS, we properly balance Nuclear Safety, production, schedule and cost priorities as demonstrated by decisions related to planning and execution of plant outages. (3.86, ↑ 9.6%, 92.1% positive response)  
The rating of this attribute is considered to be “Highly Effective” and showed very notable improvement since 2007.
- During the conduct of RFO 15, we maintained Nuclear Safety as our top priority. (4.24, 96.5% positive response)  
The rating of this attribute is considered to be “Highly Effective”. This was a new survey question for 2008 so trending information is not available.
- During the conduct of RFO 15, management effectively communicated the reasons for decisions that potentially or actually affected Nuclear Safety. (4.07, 94.0% positive response)  
The rating of this attribute is considered to be “Highly Effective”. This was a new survey question for 2008 so trending information is not available.

The survey write-in comments and the confidential interviews strongly validated these survey numerical results. However, there were a few comments that indicated that senior management reactions to two “equipment operability” determinations made by Operations Shift personnel could have been handled better. There was one comment that suggested that there should have been more “all hands” communication at the end of the outage to ensure that everyone understood the bases for starting-up the plant with a few degraded equipment conditions.

#### Conclusion:

All sources of input indicate that the actions taken were Effective.

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### 2007 ISCA FINDING ANA-N-2

#### Statement of the Finding

*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.*

#### Background:

This Finding was based predominantly on the number and nature of the 2007 ISCA write-in comments on this subject area.

This Finding was processed through the DBNPS Corrective Action Program as CR 08-38798. The CR and its attachments detail the actions taken, including:

- An *OnLine* article regarding the funding FirstEnergy is contributing to each site for facility improvements and the company's commitment to safe and reliable operation.
- Discussion of the DBNPS "Top Ten" list at the June "all-hands" meeting.

Ratings of the following cultural attributes/survey questions indicate that the corrective actions taken were effective:

- The message that Nuclear Safety is the highest priority is frequently and consistently reinforced in communications from site senior management and corporate nuclear management. (4.49, ↑0.4%, 98.2% positive response)  
The rating of this attribute is considered to be "Highly Effective"
- At DBNPS, we have sufficient financial resources to maintain Nuclear Safety and safe plant operations. (3.84, ↑4.6%, 91.5% positive response)  
The rating of this attribute is considered to be "Highly Effective"
- Production, cost and schedule goals are developed, communicated and implemented in a manner that reinforces the importance of Nuclear Safety. (3.79, ↑ 5.7%, 92.3% positive)  
The rating of this attribute is considered to be "Highly Effective" and showed notable improvement since 2007.

The survey write-in comments and the confidential interviews validated these survey numerical results. However, there continue to be some survey write-in comments expressing concern about management commitment to addressing long-standing equipment-related problems; the number of such comments has declined significantly since the 2007 ISCA. One commenter suggested improved corporate communications on decisions made that may have an impact on DBNPS (i.e., projects, expectations, resources).

#### Conclusion:

All sources of input indicate that the actions taken were Effective. This is an area where continued communications with the workforce is warranted on a periodic basis.

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### 2007 ISCA FINDING ANA-N-3

#### Statement of the Finding

*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.*

#### Background:

This Finding was processed through the DBNPS Corrective Action Program as CR 08-38972.

As detailed in that CR, in order to determine the underlying reasons for the declined survey ratings management (1) reviewed available documentation from the 2007 ISCA and the internal 2007 SCWE survey, and (2) conducted personnel interviews with the workforce. In this regard, it was concluded that:

“...it appears the qualification process and training continues to be an area of frustration amongst the electrical shop personnel. The craft and supervisors both expressed concerns regarding the lack of progress in obtaining qualifications and concerns regarding the state of the electrical training classes and labs. The interviews also revealed some personnel issues within the shop and with management. The topic of compensation was also discussed during the interviews but did not appear to be an overriding concern among the personnel interviewed. The topic of compensation was mostly associated with the progression of obtaining qualifications. Another area of concern noted during the interviews was in the area of recognition.”

The CR and its associated CAs detail the actions taken.

#### Evaluation:

As indicated in this Report (specifically in 2008 Finding ANA-N-1), the Electrical Maintenance organization continues to be identified as a Priority 2 outlier organization based on having provided low and declined survey numerical ratings of the Overall NSC, the Overall SCWE and the Overall GCWE key cultural metrics. This organization continues to represent a localized Area in Need of Attention. Based on the confidential personnel interviews and the survey write-in comments, it appears that the cause of the declined ratings is rooted primarily in GCWE-related and LMS-related issues not NSC-related or SCWE-related issues. The most significant driver of the low and declined survey ratings appears to be continued dissatisfaction with the Training & Qualifications process and associated workload and resource management concerns.

#### Conclusion:

While actions have been taken to improve this situation somewhat, this organization continues to be classified as a Priority 2 outlier organization in 2008.

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### 2007 ISCA FINDING ANA-N-4

#### Statement of the Finding

*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.*

#### Background:

The Assessment Team considers this Finding and 2007 Finding ANA-G-2 (see below) to be rooted in similar, if not identical, issues. In this regard, in December 2007, FENOC decided to make changes in the senior management of the DBNPS Security/Site Protection organization.

This Finding was processed through the DBNPS Corrective Action Program as CR 08-38971. That CR was written subsequent to the change in the senior management of the DBNPS Security/Site Protection organization. It details actions taken by the new senior management and also includes two additional CAs.

#### Evaluation:

The 2008 ISCA ratings of key cultural metrics provided by the DBNPS Security/Site Protection organization indicate that the actions taken to address this situation have been effective:

- Ratings of key NSC-related metrics, including the SCWE metric, have improved by 7% since the 2007 ISCA.
- Ratings of key GCWE-related and LMS-related metrics have improved by 17% since the 2007 ISCA.
- The 2008 ISCA ratings did not result in the DBNPS Security/Site Protection organization being identified as an “organizational outlier” either based on industry norms or based on DBNPS “general performance norms”.

The survey write-in comments and the confidential interviews strongly validated these survey numerical results. It should be noted, however, that some individuals continue to have concerns regarding the GCWE and LMS-related behaviors and practices of a few supervisors within the organization.

#### Conclusion:

All sources of input indicate that the actions taken were Effective.

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### 2007 ISCA FINDING ANA-G-1

#### Statement of the Finding

*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.*

#### Background:

This Finding was processed through the DBNPS Corrective Action Program as CR 08-38793 and resulted in 13 corrective actions.

#### Evaluation:

The Assessment Team acknowledges that progress has been achieved in this area, specifically:

- Maintenance management has provided a number of specialized training opportunities to the workforce
- Increased management focus on T&Q is being provided through a number of mechanisms, including but not limited to CRC meetings, STAC meetings, use of action plans for individuals falling behind in their T&Q progress, and posting of OJT/NPE schedule opportunities.

Nevertheless, based on the survey numerical results, dissatisfaction with the implementation of the Maintenance Training & Qualification process is a primary contributor to low and/or declined ratings provided by several Maintenance Organizations. In this regard:

- Two of those organizations provided ratings that resulted in their being identified as 2008 Priority Level 2 “outlier organizations” (refer to 2008 Findings ANA-N-1 and ANA-N-2)
- One of those organizations provided ratings that resulted in its being identified as a 2008 Priority Level 3 “outlier organization” (refer to 2008 Finding OFI-N-2).
- One of those organizations provided ratings that resulted in its being identified as a 2008 Priority Level 4 “outlier organization” (refer to 2008 Finding OFI-G-3).

The survey write-in comments and the confidential interviews validated these survey numerical results.

#### Conclusion:

While actions have been taken to improve this situation, this issue continues to represent a significant source of frustration within the Maintenance organizations. This continuing situation is the subject of 2008 Finding OFI-G-6. This is now considered to be an OFI (as opposed to an ANA) based on the actions taken and the increased attention currently being focused on this matter.

## COIA-SC-2008 FINAL REPORT

### 2007 ISCA FINDING ANA-G-2

#### Statement of the Finding

*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.*

#### Background:

The Assessment Team considers this Finding and 2007 Finding ANA-N-4 (see above) to be rooted in similar, if not identical, issues. In this regard, in December 2007, FENOC decided to make changes in the senior management of the DBNPS Security/Site Protection organization.

This Finding was processed through the DBNPS Corrective Action Program as CR 08-39137.

That CR was written subsequent to the change in the senior management of the DBNPS Security/Site Protection organization. It details actions taken by the new senior management and also summarizes the results of personnel interviews conducted by the FENOC Oversight Organization in June 2008. The results of these interviews are documented in the FENOC Quality Field Observation Database under QFO DB120083082. As a result of this activity, all security personnel have received training on initiating a Condition Report.

#### Evaluation:

Refer to the evaluation of 2007 Finding ANA-N-4 above.

#### Conclusion:

All sources of input indicate that the actions taken were Effective.



## COIA-SC-2008 FINAL REPORT

In its COIA-SC-2007 Final Report, the Assessment Team noted 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 expressed its belief that the “Performance Improvement Model & Implementation Process (DBBP-RC-0009)” could serve as an engine to drive this transition and encouraged its continued use by the DBNPS management team. In reviewing the status of actions taken by DBNPS to continue to use this process to critically assess organizational effectiveness, the Assessment Team determined that this process was not used in 2008 but that there are tentative plans to use it in 2009.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-1) 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 indicated 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.” In reviewing the status of actions taken by DBNPS to act on this opportunity for improvement, the Assessment Team determined the following:

- Increased management attention is being placed on benchmarking activities through periodic monthly reviews as part of MAOM meetings.
- Tactical benchmarking activities continue to be conducted in particular areas of interest (e.g., chemistry practices, radiation protection/ALARA practices, outage management practices and industry experience related to the implementation of the new preventative Maintenance strategy).
- DBNPS management has not yet established a strategic benchmarking program or plan.
- FENOC is in the process of developing a fleet-wide strategic benchmarking program/plan/schedule, which is expected to be available by the end of 1Q 2009.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-2) to further enhance overall organizational effectiveness through improving self-assessment activities (particularly snapshot assessments and focused assessments). In this regard, the Assessment Team expressed its belief that 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 reviewing the status of actions taken by DBNPS to act on this opportunity for improvement, the Assessment Team determined the following:

- DBNPS management has not yet established an integrated, multi-year strategic program or plan for the scheduling and conduct of self-assessments.
- FENOC is in the process of developing a fleet-wide, integrated, multi-year self-assessment program/plan/schedule, which is expected to be available by the end of 4Q 2008. It appears that this will include assessments conducted by both the Fleet and the three Sites. It is noteworthy that DBNPS’s input to this plan proposed only 4 focused assessments for 2009.

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In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-3) to further enhance the effectiveness of DBNPS management's Annual Self-Assessment of its NSC. This was a repeat Finding from the COIA-SC-2006 Final Report. In reviewing the status of actions taken by DBNPS or FENOC to enhance this self-assessment process, the Assessment Team determined that responsibility for this process resides in FENOC and little or no action was taken to address the suggestions for improvement made by the Assessment Team. The Assessment Team has developed 2008 Finding OFI-N-6 on this subject.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-4) to further enhance the effectiveness of evaluating and addressing "soft" (cultural) issues whether self-identified or identified through external assessments such as this assessment. The Assessment Team reviewed the actions taken by DBNPS management to address this opportunity in the context of its processing of the "soft" Findings presented in the COIA-SC-2007 Final Report, and found that the actions taken were appropriate.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-7) related to recurring operational problems with the Integrated Control System, which continue to be a source of frustration to the Operations organization. The Assessment Team reviewed the actions taken by DBNPS management to address this situation, and found that:

- Resolution of this situation is considered to be of high priority to the DBNPS organization. It is item number 1 on the Plant Health Committee's Top 10 list.
- Resolution is being pursued in two phases, with the first phase planned to be designed and implemented in RFO 16.
- Due to unintended (and unanticipated) consequences associated with a "stop work" order to an engineering contractor, the schedule for implementation of phase one appears to be in jeopardy.
- At the time that the Assessment team was on site at DBNPS (October 2008) funding for phase two had not yet been approved.

The Assessment Team suggests that the lessons-learned from this situation be well understood and well communicated.

In its COIA-SC-2007 Final Report, the Assessment Team identified an Opportunity for Improvement (OFI-N-10) related to the backlog of procedural changes in Operations. The Assessment Team reviewed the actions taken by DBNPS management to address this situation, and found that a plan is in place to address this situation and progress is being made. This plan relies on each of the operating shifts to own and resolve a set of assigned procedure change requests (generally enhancement in nature). The Assessment Team obtained information through the confidential personnel interviews that suggests that one or more operating shifts may not be in full alignment with Operations management on this approach.

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### VIII. REPORT ATTACHMENTS

Additional information related to the 2008 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 Demographic Variations Information
- Attachment 7 Numerical Analysis of Survey Write-In Comments

## IX. ADDITIONAL INFORMATION PROVIDED SEPARATELY

The following additional SYNERGY proprietary information related to the 2008 Independent Assessment of the DBNPS NSC/SCWE has been provided to DBNPS management on a SYNERGY-proprietary CD-ROM disk:

1. The 2008 DBNPS Nuclear Safety Culture Workforce Survey Form
2. Assignments of the 2008 DBNPS Nuclear Safety Culture survey questions to SYNERGY's cultural model for NRC RIS 2006-13
3. 2008 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. 2007-2008 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 2007-2008 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 2007-2008 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 2007-2008 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".

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SYNERGY previously 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.

## 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
- Dennis A. Winchester, SYNERGY Associate
- Aldo Capristo, Xcel Energy – Industry Peer
- George M. Kusnik, Exelon/Dresden Nuclear Power Plant – Industry Peer

### **John C. Guibert**

Mr. Guibert served as the Assessment Team leader for the 2008 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 and 2007 Independent Assessments 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 and 2008 Independent Assessments 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

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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.

### **Mr. Aldo Capristo**

Mr. Capristo has 27 years of nuclear power experience. He currently is serving as the Fleet Business Planning Director for Nuclear Management Corporation (NMC). During the past ten years, he has served as the NMC Fleet Employee Concerns Program Director, the Point Beach Nuclear Plant (PBNP) Business Support Manager, the PBNP Regulatory Affairs Manager, the PBNP Nuclear Oversight Manager and the PBNP Employee Concerns Program Manager. Prior to joining NMC, Mr. Capristo served in positions of increasing responsibility in the nuclear power programs of two other commercial nuclear power utilities and in the US Navy's nuclear propulsion program.

Mr. Capristo previously:

- Served as an industry peer on the team that conducted the 2004 and 2005 Independent Assessments of the NSC/SCWE at DBNPS
- Served as Project Manager for the conduct of an Independent Assessment of the NSC throughout the NMC Fleet (6 stations and corporate headquarters)
- Served as co-chairman of the national Employee Concerns Program Forum

### **Mr. George M. Kusnik**

Mr. Kusnik is employed with Exelon Nuclear Corporation and has 35 years of nuclear power experience with current responsibilities as an auditor and Employee Concerns Investigator within the Nuclear Oversight Department. Mr. Kusnik's background and job responsibilities during his career have also included mechanical maintenance activities, quality control inspector (i.e. welding maintenance, structural), training instructor, mechanical maintenance first line supervisor, and station security manager.

Since late 2000, Mr. Kusnik has served as Assessor, Auditor and Employee Concerns Program Site Representative in the Nuclear Oversight Department at the Dresden Nuclear Power Station.

Mr. Kusnik previously served as an industry peer reviewer for the 2008 Independent Nuclear Safety Culture Assessment of the Perry Nuclear Power Station.

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### **Mr. Dennis A. Winchester**

Dennis A. Winchester provides consulting services to the commercial nuclear power industry, specializing in the areas of nuclear oversight, safety culture assessment and safety culture-related programs and processes.

Mr. Winchester has previously participated on the Independent Assessment Teams for the safety culture assessments at Davis-Besse Nuclear Power Station (2006), Palo Verde Nuclear Generating Station (2007) and Perry Nuclear Power Plant (2008). He was also responsible for managing safety culture assessment activities at the Salem and Hope Creek Generating Stations (2006).

From May 2005 through July 2007, Mr. Winchester served as PSEG Nuclear's Vice President of Nuclear Assessment. In that capacity, he was responsible for providing leadership and oversight for nuclear assessment activities at the Salem and Hope Creek Generating Stations. In addition, he had executive responsibilities for implementation of the work environment improvement initiatives associated with the safety conscious work environment and employee concerns program improvements.

Mr. Winchester has 25 years of nuclear power plant experience. Prior to joining PSEG Nuclear, he served as the acting Nuclear Oversight Vice President, the Director of Nuclear Oversight Programs and the Ombudsman for Exelon Corporation. Mr. Winchester has worked in a quality assessment management capacity for Exelon Corporation and Commonwealth Edison (merged to form Exelon) in successively increasing levels of responsibility since 1982. In these roles, he made important contributions for performance assessment and improvement of the nuclear facilities owned and operated by Exelon and Commonwealth Edison.

Mr. Winchester has been actively involved in Industry Quality leadership forums. He participated as a working committee member in the ANS 3.2 Operating Quality Standard and sits on the Main Committee of the ASME Quality Standard, NQA-1. He was Chairman of the Nuclear Quality Management Leadership forum. Mr. Winchester is also an active participant in the Employee Concerns Program forum.



Enclosure B  
L-09-011

**ACTION PLAN TO ADDRESS  
AREA FOR IMPROVEMENT**

**2008 INDEPENDENT ASSESSMENT OF THE  
DAVIS-BESSE NUCLEAR POWER STATION  
NUCLEAR SAFETY CULTURE AND  
SAFETY CONSCIOUS WORK ENVIRONMENT**

**ASSESSMENT NUMBER: COIA-SC-2008**

(1 page follows)

## 2008 Independent Assessment of DBNPS NSC/SCWE

### Assessment Number: COIA-SC-2008

#### Action Plan for AFI –N-1

##### Other Supply Chain

This Action Plan has been developed to address the Area for Improvement (AFI) identified in the 2008 Confirmatory Order Independent Assessment (COIA) of Nuclear Safety Culture (NSC), and Safety Conscious Work Environment (SCWE) at the Davis-Besse Nuclear Power Station (DBNPS).

#### Background:

The purpose of the assessment was to provide an independent and comprehensive assessment of the status of the existing Nuclear Safety Culture and Safety Conscious Work Environment, at the Davis-Besse Nuclear Power Station. The Assessment was performed in accordance with the requirements of the March 8, 2004, Confirmatory Order Modifying License No. NPF-3.

The Davis-Besse Nuclear Power Station understands the importance of achieving and maintaining key cultural metrics for Overall Nuclear Safety Culture (NSC), Overall Safety Conscious Work Environment (SCWE), Overall General Culture and Work Environment (GCWE) and Overall Leadership Management and Supervisory Behaviors (LMS). Although the DBNPS is rated in the top quartile for all of these areas in the commercial nuclear power industry database maintained by the organization that conducted our COIA, during the 2008 assessment an AFI was identified and issued to the affected organization.

#### Detail:

The Davis-Besse Nuclear Power Station is supported by a Supply Chain organization that has recently reorganized to transition from a site approach to a fleet approach for sourcing activities. For the purposes of the 2008 COIA and this AFI, evaluation of the pre-reorganization structure of three (3) sub organizations (Davis-Besse Supply Chain, Other Supply Chain and Nuclear Warehousing) was used.

This AFI pertains to the Other Supply Chain component of the overall Supply Chain organization based on having provided low and declined survey numerical ratings of all key cultural metrics (i.e., NSC, SCWE, GCWE and LMS). This sub section of the Supply Chain organization represents a localized Area for Improvement.

Based on the information obtained during the assessment, it appears that the cause of the low and declined ratings is rooted primarily in LMS-related issues not NSC-related issues; however, SCWE-related concerns exist.

The low ratings appear to be driven by off-site behaviors and decisions that are having on-site effects. To investigate and evaluate this information and develop effective corrective actions, the entire Supply Chain organization-supporting DBNPS will be addressed.

#### Actions to address AFI –N-1:

1. Initiated Condition Report 08-51329 in the Corrective Action Program to address AFI –N-1.
2. Develop and implement a plan to investigate and evaluate the conditions identified during the 2008 DBNPS Confirmatory Order Independent Assessment.
3. Generate a report to document the investigation/evaluation, and generate corrective actions to address the cause(s) to improve performance for key cultural metrics.
4. Implement the corrective actions.
5. Perform an effectiveness review during the first quarter 2010.