DOE/SNF/Trend-2006

United States Department of Energy

National Spent Nuclear Fuel Program

Quality Assurance Program Annual Trending Report

January–December 2006

February 2007

U.S. Department of Energy
Assistant Secretary for Environmental Management
Office of Nuclear Material and Spent Fuel

This document was developed and is controlled in accordance with NSNFP procedures. Unless noted otherwise, information must be evaluated for adequacy relative to its specific use if relied on to support design or decisions important to safety or waste isolation.

DOE/SNF/Trend-2006

National Spent Nuclear Fuel Program Quality Assurance Program Annual Trending Report

January–December 2006

February 2007

WBS# C.B.30.03.02.02.QA

Idaho National Laboratory
Idaho Falls, Idaho 83415

Prepared for the
U.S. Department of Energy
Assistant Secretary for Environmental Management
Under DOE Idaho Operations Office
Contract DE-AC07-05ID14517

REVISION LOG

Revision	Comments	Issue Date
0	new document	February 2007

National Spent Nuclear Fuel Program Quality Assurance Program Annual Trending Report

January–December 2006

February 2007

C. Kido _____ (Signature) Date: 2-28-07

National Spent Nuclear Fuel Program QA Document Preparer

D. A. Armour _____ (Signature) Date: 2/28/07

National Spent Nuclear Fuel Program QAS Manager

Page Intentionally Left Blank

SUMMARY

The 2006 National Spent Nuclear Fuel Program (NSNFP) trend report documents the analysis of Quality Assurance (QA) deficiencies for the identification of trends adverse to quality in the NSNFP. The scope of the analysis covers the NSNFP and NSNFP supplier deficiency reports that were generated between January 2002 through December 2006. The closure status was summarized as of February 12, 2007 during the preparation of this trend analysis report. The January 2002 date signifies the time when the current NSNFP Quality Program and Document Manual was established.

Deficiencies are identified as Deficiency Reports (DRs), Corrective Action Requests (CARs), or a deficiency corrected during an assessment (CDA). The DRs/CARs/CDAs are tracked in the NSNFP QA Corrective Action Tracking Trending System database. During calendar year 2006, six deficiencies were identified for the NSNFP and one deficiency for the NSNFP supplier. The deficiency data for this reporting period were categorized and evaluated for emerging trends. There were no deficient trends identified as a result of this analysis that require management action.

NSNFP

During 2006, six NSNFP deficiencies were generated. The 2006 NSNFP internal audit (06-NSNF-AU-001) identified one condition adverse to quality corrected during audit (CDA). The NSNFP surveillance 06-NSNF-S-001 identified two DRs. During the performance of work activities the NSNFP staff initiated one DR. In addition, the 2006 external EM/RW audit (06-DOE-AU-002) of the NSNFP identified two condition reports (CRs). For the purpose of this trend report, the one CDA, three DRs, and two CRs were grouped as six NSNFP deficiencies to perform the trending analysis of the overall NSNF Program.

The evaluation of NSNFP data showed a decline in number of deficiencies from 13 in 2002, to 11 in 2003, to 10 in 2004, to 4 (all CDAs) in 2005, and then increased slightly to 6 in 2006. The Pareto analysis showed that 3 of 6 (50%) conditions were attributed to the personnel oversight for failure to follow the implementing NSNFP procedures. An NSNFP staff awareness training was held in May 2006 for personnel attention to detail and work activities. Subsequently, surveillance 06-NSNF-S-006 determined that the staff training was effective in reducing the incidence of similar occurrences. There are no significant increasing trends for 2006. There were no CARs issued during 2006.

NSNFP Suppliers

During 2006, the only active government sector supplier to the NSNFP was the Idaho National Laboratory (INL) Management and Operations (M&O) contractor, Battelle Energy Alliance (BEA). The NSNFP surveillance of the INL Procurement Organization resulted in one deficiency (07-SUPP-S-001-DR-001) related to administrative oversight to scan procurement quality records. The records were scanned and verified and the DR was closed on January 18, 2007.

There were no adverse trends or impacts when compared with the other NSNFP Supplier DRs in past years.

External Oversight Activities

The 2006 external EM/RW audit (06-DOE-AU-002) of the NSNFP identified two CRs. The CR number NSNFP (EM)-06-D-025 pertained to a number of minor errors that viewed collectively could indicate an issue related to inattention to detail on the part of the NSNFP staff. The CR -025 was closed on February 12, 2007.

The CR number NSNFP (EM)-06-D-026 was related to completeness of the NSNFP QA 2nd Quarter FY 2006 assessment schedule and timely audits. NSNFP QA personnel revised the assessment schedule to close the deficiency during the audit.

The two CRs were compared with the NSNFP deficiency reports for subject and direct cause. The evaluation showed that the EM/RW generated CRs represent different examples of NSNFP personnel attention to detail and procedure implementation deficiencies that have since been corrected. There were no adverse trends identified.

CONTENTS

Page Intentionally Left Blank

ACRONYMS

CAR	Corrective Action Request
CATTS	NSNFP Corrective Action Tracking Trending System
CDA	Corrected During Audit
CR	Condition Report (EM/RW)
DOE	U.S. Department of Energy
DR	Deficiency Report
EDF	Engineering Design File
EM	DOE Office of Environmental Management
DOE-ID	U.S. Department of Energy Idaho Operations Office
NSNFP	National Spent Nuclear Fuel Program
PSO	NSNFP Program Support Organization
QA	Quality Assurance
QAS	NSNFP Quality Assurance Staff
QARD	RW Quality Assurance Requirements and Description
RW	Office of Civilian Radioactive Waste Management
SNF	Spent Nuclear Fuel

Page Intentionally Left Blank

National Spent Nuclear Fuel Program
Quality Assurance Program Annual Trending Report

1. INTRODUCTION

1.1 Purpose and Scope

The 2006 National Spent Nuclear Fuel Program (NSNFP) trend report documents the analysis of quality assurance (QA) deficiencies for the identification of trends adverse to quality in the NSNFP. The scope of the 2006 NSNFP trend report includes the NSNFP and NSNFP supplier deficiency reports (DRs) that were issued between January 2002 and December 2006. The closure status was summarized as of February 12, 2007 during the report preparation. The January 2002 date signifies the time when the current NSNFP Quality Program and Document Manual was initially implemented.

The analysis performed meets the requirements set forth in Section 16.2.6, "Quality Trending" of DOE/RW-0333P, *Quality Assurance Requirements and Description* (QARD). The trend analysis was performed in accordance with procedure NSNFP 16.03. The results are presented in the following sections.

1.2 Description of Trending Process and Methodology

Deficiencies are categorized as conditions adverse to quality and significant conditions adverse to quality, and are documented as a Deficiency Report (DR) or Corrective Action Request (CAR), respectively. A deficient condition identified and corrected during an assessment is categorized as a CDA; these conditions are included in the trending analysis process in the same manner as a DR. The DRs/CARs are assigned subject codes and direct cause codes. Significant conditions adverse to quality are documented as CARs and assign a root cause code for the adverse condition, based on formal root cause analysis. Codes are recorded in the NSNFP QA Corrective Action Tracking Trending System (CATTS) to facilitate analysis. The codes are sorted by calendar year into two groups: the NSNFP and the suppliers to the NSNFP. Any identified deficiencies from external assessments of the NSNFP, such as those performed by the EM/RW audit team, were combined with the NSNFP reports for analysis and trending. Other sources of trending information are also used for analysis such as previous NSNFP QA trend analysis reports.

Subject codes are assigned to the DR or CAR that reflect the primary QARD requirement that is violated. Direct cause codes are the apparent cause of a condition adverse to quality. Root cause codes reflect the identified root cause that results from formal analysis. The first two codes, subject and direct cause, are subjective and are validated by review of the DRs/CARs during analysis. Root cause codes reflect the results of formal analysis and do not require validation.

Subject codes, direct cause codes, and root cause codes are used to compare the frequency of occurrence of like deficiencies. Codes are sorted by organization for each calendar year to identify an increase in the frequency of occurrence over time. Where an increase in frequency is identified, each individual DR/CAR is evaluated to validate that common issues are identified and determine if an adverse trend is present.

Subject codes and direct cause codes are evaluated by Pareto analysis for each organization within a respective group. This analysis identifies the most frequent occurrence of deficiency codes. DRs/CARs are evaluated for the highest occurrence of a code to validate that common issues are

identified. The highest occurrence of a code that reflects a common issue may represent an indicator of an adverse trend.

The DRs/CARs are evaluated for timeliness of corrective action, including (as applicable) a discussion of ineffective or overdue corrective actions for each organization. The duration of closed and open DRs/CARs are compared by calendar year to determine if an adverse trend in timeliness of corrective action is present.

Potential adverse trends are evaluated against the criteria for trends adverse to quality in Procedure NSNFP 16.03, "Quality Assurance Trending." If the analysis finds the trend to be adverse to quality, then a review of open and recently completed corrective actions is performed to determine whether mitigating actions are in process that may resolve the adverse trend. If there are no mitigating actions, then an evaluation of the trend for a significant condition adverse to quality is performed to determine whether a CAR will be issued to the responsible NSNFP organization.

The discussion for each NSNFP organization includes a description of documentation used as a part of the analysis, evaluations of selected subject and direct cause codes, and conclusions regarding trends adverse to quality. Appendix A provides tables that summarize the subject codes, direct cause codes, and root cause codes. In addition, Appendix A presents the figures used in the Pareto analyses to identify the most frequent occurrence of subject and direct cause codes. Appendix B shows bar charts for the timeliness of DR closure through February 12, 2007. Appendix C lists the DRs, CARs, and Conditions Corrected during Audit (CDAs) that were analyzed for this trending report. Appendix D lists the codes used for both direct and root causes.

2. ANALYSIS

2.1 National Spent Nuclear Fuel Program

The NSNFP is composed of a Program Support Organization (PSO) and a Quality Assurance Staff (QAS) organization. The DRs are assigned to each organization recognizing unique responsibilities. However, the analysis evaluated the data as representative of one organization.

During 2006, six deficiencies were attributed to the NSNFP PSO and NSNFP QAS organizations with responsibility for closure. Four of the six deficiencies were self identified by the NSNFP. The remaining two deficiencies were identified as condition reports (CRs) from the 2006 external EM/RW audit (06-DOE-AU-002) of the NSNFP. For the purpose of this trending report, the four deficiency reports and two CRs were grouped together for analysis of the overall NSNF Program.

The evaluation of NSNFP data showed a decline in number of deficiencies from 13 in 2002, to 11 in 2003, to 10 in 2004, to 4 CDAs in 2005, and increase to 6 in 2006. The Pareto analysis showed that 3 of 6 (50%) conditions were attributed to the personnel oversight for failure to follow the implementing NSNFP procedures. An NSNFP staff awareness training was held in May 2006 for personnel attention to detail and work activities. Subsequently, surveillance 06-NSNF-S-006 determined that the staff training was effective in reducing the incidence of similar occurrences. There are no significant increasing trends for 2006. There were no CARs issued during 2006.

2.1.1 Subject Codes

Appendix A sorts the subject codes for the NSNFP by calendar year. The results indicate an overall improvement in QA program implementation from 2002 through 2005. The distribution of subject codes presented in the Pareto figure shows that the six deficiencies were associated with six different subject codes. The deficiencies are summarized below. The evaluation and analysis showed no significant trends.

Subject Code

Deficiency report 06-NSNF-AU-001-CDA-001 describes a condition affecting the Quality Program subject code (B) that was identified and corrected during the internal NSNFP audit (06-NSNF-AU-001). The NSNF QA Program Plan QAPP-001 was corrected to show the current DOE-ID nomenclature and the Quality & Safety Division Director. This was an isolated condition.

Deficiency report 06-NSNF-S-001-DR-001 describes a condition affecting the Procurement subject code (D) that was identified during the NSNFP surveillance (06-NSNF-S-001). The nature of the condition was that INL and SNL Government Sector Suppliers had performed work prior to the issue of formal Task Management Agreements. As a result, the Program Applicability Evaluation PAE-007 was revised to document the path actually taken to date to control the interfaces with the task participants and the path to be taken for weld qualification and continuation of scale up activities. The planning documents PP-048 and PP-049 were determined to be no longer applicable and were cancelled.

Deficiency report 06-NSNF-S-001-DR-002 describes a condition affecting the Design Controls subject code (C) that was identified during the NSNFP surveillance (06-NSNF-S-001). The nature of the condition was that details were missing in PAE-007, PP-048 and PP-049. As a result, the Engineering Design Files (EDFs 062, 066 and 070) were revised to include the information that was previously omitted. The evaluation of corrective actions and closure verification were performed concurrently with deficiency report 06-NSNF-S-001-DR-001.

Deficiency report 06-NSNF-8/10/06-DR-001 describes a condition affecting the NSNFP Organization subject code (A) that was initiated by NSNFP staff during the performance of work activities. The nature of the condition was that NSNFP Planning/QA Applicability Evaluations (PAEs) did not address the specific engineering and criticality analysis activities needed to support a Topical Report to be presented to the U.S. NRC. To close the DR, PAE-010 was updated to include the new task of preparing the topical report and related analysis.

Condition report NSNFP (EM)-06-D-025 describes a condition affecting the Quality Records subject code (Q) that was identified and corrected during the external EM/RW audit (06-DOE-AU-002). This CR pertained to a number of minor errors that viewed collectively could indicate an issue related to inattention to detail on the part of the NSNFP staff. The evidence of completed corrective actions was forwarded to EM-RW for verification and closure. The Condition Report was closed on February 12, 2007.

Condition report NSNFP (EM)-06-D-026 describes a condition affecting the Audit Schedule subject code (R) that was identified and corrected during the external EM/RW audit (06-DOE-AU-002). The nature of the deficiency was that the annual internal audit and annual external EM-RW audit were not identified on the NSNFP QA 2nd Quarter FY 2006 assessment schedule and these audits were not conducted in a timely interval. NSNFP QA personnel revised the FY-2006 2nd Quarter assessment schedule to close the deficiency during the audit.

Evaluation

The six deficiencies were associated with six different subject codes. The evaluation and analysis showed no significant trends.

2.1.2 Direct Cause Codes

Appendix A sorts the direct cause codes for the NSNFP by calendar year. The evaluation indicated an overall improvement in QA program implementation from 2002 through 2006. The direct causes for three of six (50%) 2006 DRs were due to the direct cause category of Personnel Error.

Direct Cause Code 02A, *Personnel Error—Lack of Attention to a Task*

Deficiency report 06-NSNF-8/10/06-DR-001 identified planning documents did not address the specific engineering and criticality analysis activities needed to support a Topical Report to be presented to the U.S. NRC. To close the DR, PAE-010 was updated to include the new task of preparing the topical report and related analysis.

Condition report NSNFP (EM)-06-D-025 identified a number of minor errors that viewed collectively could indicate an issue related to inattention to detail on the part of the NSNFP staff. The evidence of completed corrective actions was forwarded to EM-RW and subsequently approved for closure.

Condition report NSNFP (EM)-06-D-026 identified omissions in the NSNFP QA 2nd Quarter FY 2006 assessment schedule. NSNFP QA personnel revised the FY-2006 2nd Quarter assessment schedule to close the deficiency during the audit.

Direct Cause Evaluation

Evaluation of Direct Cause Code 02A, *Personnel errors related to the lack of attention to detail,* showed downward trends (6 in 2002, 5 in 2003, 7 in 2004, 4 in 2005 and 3 in 2006). Various process improvements have been instituted and discussed during scheduled NSNFP staff meetings. The personnel errors have not resulted in any adverse impacts to the NSNFP Quality Program. The number of personnel errors associated with generating, transmitting and storing records has declined. Personnel attention to detail will continue to be monitored for effectiveness.

2.1.3 Root Cause Codes

The evaluation of root cause codes for the NSNFP indicates an overall improvement in QA program implementation. There were no significant conditions adverse to quality identified during 2003 to 2006. No adverse trends are identified from this analysis. No further action is required as a result of this evaluation.

2.1.4 External Oversight of the NSNFP

DOE EM/RW conducted a compliance-based audit (06-DOE-AU-002) of the NSNFP in 2006. The audit team identified two CRs, NSNFP (EM)-06-D-025 and -026 **(**described above), which were included in this NSNFP trend analysis. The CR -026 was closed during the audit. The CR-025 was closed on February 12, 2007.

Evaluation of these two CRs from the EM/RW audit did not identify any adverse trends when compared with the other NSNFP DRs from 2006. The CRs represent different examples of record generation and procedure implementation deficiencies that have since been corrected.

2.2 National Spent Nuclear Fuel Program Suppliers

During 2006, the only active government sector supplier to the NSNFP was the Idaho National Laboratory (INL) Management and Operations (M&O) contractor, Battelle Energy Alliance (BEA). The NSNFP surveillance of the INL Procurement Organization (07-SUPP-S-001) resulted in one deficiency. There were no adverse trends or impacts when compared with the other NSNFP DRs from 2006.

Deficiency Report 07-SUPP-S-001-DR-001 identified that approximately 30 hardcopy INL procurement records were found to be in process and had not been scanned into the INL Electronic Data Management System and verified within the allowable time limits. Most documents were dated between October 2005 and July 2006. The condition was corrected and the DR was closed on January 18, 2007.

The direct cause was attributed to personnel oversight. The remedial actions were directed at correcting discrepancies in documentation and personnel oversight as identified by the surveillance team. The deficiency was not significant, thus a root cause analysis was not required. The overall elapsed time from discovery to closure (34 days including the INL holiday curtailment) was satisfactory.

3. CORRECTIVE ACTION TIMELINESS

The DRs/CARs were evaluated for timeliness of corrective action. Data for NSNFP PSO, NSNFP QAS and NSNFP suppliers were evaluated by calendar year to determine if an adverse trend in timeliness of corrective action is present. Overall performance has improved in providing timely corrective action. The NSNFP QAS organization tracks and reports on a biweekly basis a summary report of all open DRs. During calendar year 2006, the average timeliness of deficiency report closure was 68 days. Appendix B presents figures for showing the timeliness of DR closure.

The CDAs were not included in the computed timeliness average, because the CDAs are singular incidents that are closed during the assessment, resulting in zero days for closure.

Additionally, the EM-RW audit team CRs were not compared for timeliness, because the corrective action process is handled by DOE Interoffice letters that are outside the control of the NSNFP Quality Program for timeliness of closure. The Condition Report NSNFP (EM)-06-D-026 was closed during the 2006 EM-RW audit. The Condition Report NSNFP (EM)-06-D-025 was closed on February 12, 2007 (elapsed time of 294 days).

3.1 National Spent Nuclear Fuel Program

The NSNFP PSO and QAS organizations work to the same program management procedures. However, data were sorted to evaluate the individual organization duration. The figures in Appendix B show both the NSNFP PSO and QA Support organizations have improved their timeliness in reducing the average number of days to close DRs.

The average closure time for NSNFP PSO deficiency reports declined from 161 days in 2002 (4 DRs), to 84 days in 2003 (9 DRs), to 49 days in 2004 (1 DR), zero in 2005 (zero DRs), and rose to 68 days in 2006 (3 DRs). The evaluation of data shows a slight increase in the number of deficiencies and timeliness of closure. Scheduled NSNFP staff meetings were held during 2006 to raise the level of awareness of implementing work planning practices and attention to detail.

The average closure time for NSNFP QAS deficiency reports showed an overall decline from 117 days in 2002 (4 DRs), to zero deficiencies in 2003, rising to 104 days in 2004 (3 DRs), zero days for four CDAs in 2005, and zero days for one CDA in 2006. The evaluation of data shows significant improvement in the reduced number of deficiencies and average timeliness of closure.

3.2 National Spent Nuclear Fuel Program Suppliers

During 2006, the NSNFP supplier surveillance (07-SUPP-S-001) of the INL procurement organization identified one deficiency related to scanning procurement quality records. The timeliness of corrective action closure was 34 days, which included the INL holiday curtailment.

4. RESULTS

Data for the NSNFP and NSNFP suppliers were analyzed to identify organization-specific adverse trends. Subject codes, direct cause codes, root cause codes, and timeliness of corrective action completion were evaluated. As a result of this analysis no deficient trends were identified that require management attention.

NSNFP

The evaluation of NSNFP PSO and QA data showed a steady decline in number of deficiencies from 15 in 2002, to 11 in 2003, to 10 in 2004, to 4 in 2005 (all CDAs), to 6 DRs in 2006. The Pareto analysis showed that 3 of 6 (50%) deficiencies in 2006 were attributed to the Personnel Error and attention to task. There are no significant increasing trends. The timeliness of DR closure continued to improve.

National Spent Nuclear Fuel Program Suppliers

During 2006, the only active government sector supplier to the NSNFP was the INL M&O contractor BEA. As a result of a NSNFP surveillance of INL Procurement Organization, one DR was identified and closed. There was no adverse impact.

External Oversight Activities

The 2006 EM/RW external audit (06-DOE-AU-002) of the NSNFP identified two CRs related to incomplete assessment schedule and attention to detail. The CRs represent different examples of personnel attention to detail deficiencies that have since been corrected. Evaluation of these two CRs did not identify any adverse trends when compared with the other NSNFP DRs from 2006. There were no adverse impacts.

Areas for Improvement

Evaluation of Direct Cause Code 02A, *Personnel errors related to the lack of attention to detail,* showed downward trends (6 in 2002, 5 in 2003, 7 in 2004, 4 in 2005 and 3 in 2006). Various process improvements have been instituted and discussed during scheduled NSNFP staff meetings. The personnel errors have not resulted in any adverse impacts to the NSNFP Quality Program. The number of personnel errors associated with generating, transmitting and storing records has declined. Personnel attention to detail will continue to be monitored for effectiveness.

5. BIBLIOGRAPHY

1. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2000.

2. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2001.

3. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2002.

4. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2003.

5. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2004.

6. National Spent Nuclear Fuel Quality Program Annual Trending Report, January–December 2005.

7. Memo from I. Triay, DOE EM, to E. Sellars, DOE-ID, "Issuance of Audit Report No. 06-DOE-AU-002 for the Department of Energy Idaho Operations Office National Spent Nuclear Fuel Program," April 24, 2006.

8. Memo from I. Triay, DOE EM, to E. Sellars, DOE-ID, "Closure of Condition Report NSNFP (EM)-06-D-025 identified during Audit No. 06-DOE-AU-002 for the Department of Energy Idaho Operations Office, National Spent Nuclear Fuel Program," February 12, 2007.

Appendix A - Deficiency Reports Sorted by Subject and Cause Codes

Page Intentionally Left Blank

Appendix A

Deficiency Reports Sorted by Subject and Cause Codes

NSNFP (PSO and QAS) Subject Code

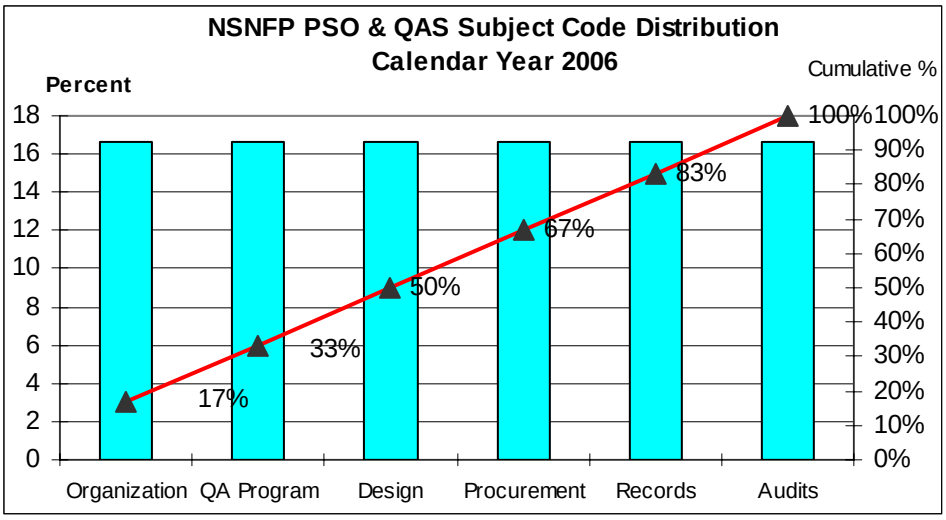
Subj. Code	Title	CY02	CY03	CY04	CY05	CY06
A	Organization	3	0			1
B	QA Program	3	2	6	1	1
C	Design	0	1			1
D	Procurement	0	5			1
E	Implementing Documents	1	1	2		
F	Doc Control	0	1			
G	Purchased items	2	0		1	
J	Inspection					
K	Test	1				
P	Corrective Action	1	0			
Q	Records	0	1	2		1
R	Audits	0	0		2	1
S	Software	0	0			
U	Scientific investigation	1				
V	Electronic Data Mgt	1				
	TOTAL	**13**	**11**	**10**	**4**	**6**

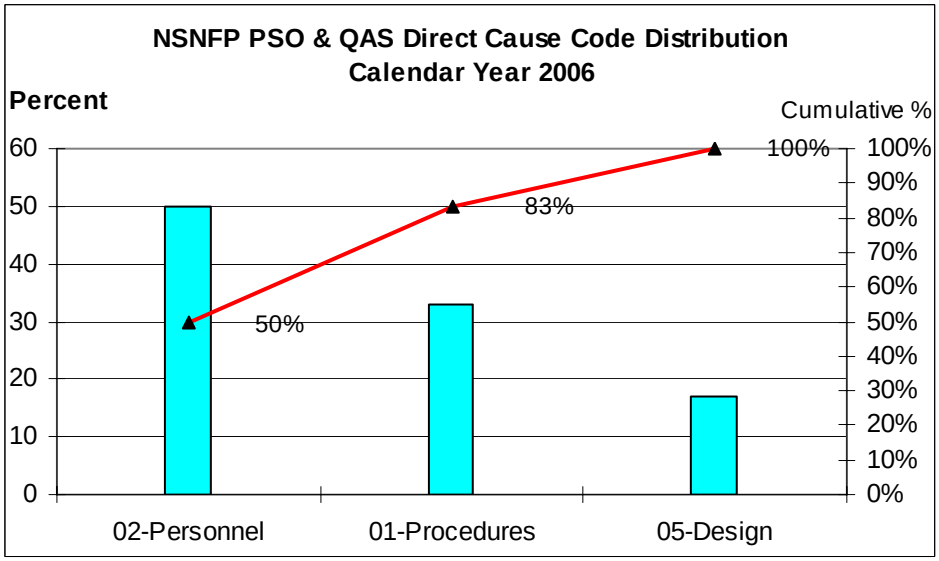
NSNFP (PSO and QAS) Direct Cause Code

Direct cause	Title	CY02	CY03	CY04	CY05	CY06
1	01-Procedures	6	3	1		2
2	02-Personnel	4	5	7	4	3
3	03-Management	3	1	1		
4	04-Training		1			
5	05-Design		1	1		1
8	08-Software					
10	10-Misc.					
	TOTAL	**13**	**11**	**10**	**4**	**6**

NSNFP (PSO and QAS) Root Cause Code

Root cause	Title	CY02	CY03	CY04	CY05	CY06
1	01-Procedures					
2	02-Personnel					
3	03-Management	2				
	TOTAL	**2**	**0**	**0**	**0**	**0**


NSNFP PSO & QAS Subject Code Distribution
Calendar Year 2006
Percent
Cumulative %
18
16
14
12
10
8
6
4
2
0
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
17%
33%
50%
67%
83%
100%
Organization
QA Program
Design
Procurement
Records
Audits


NSNFP PSO & QAS Direct Cause Code Distribution
Calendar Year 2006
Percent
Cumulative %
60
50
40
30
20
10
0
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
50%
83%
100%
02-Personnel
01-Procedures
05-Design

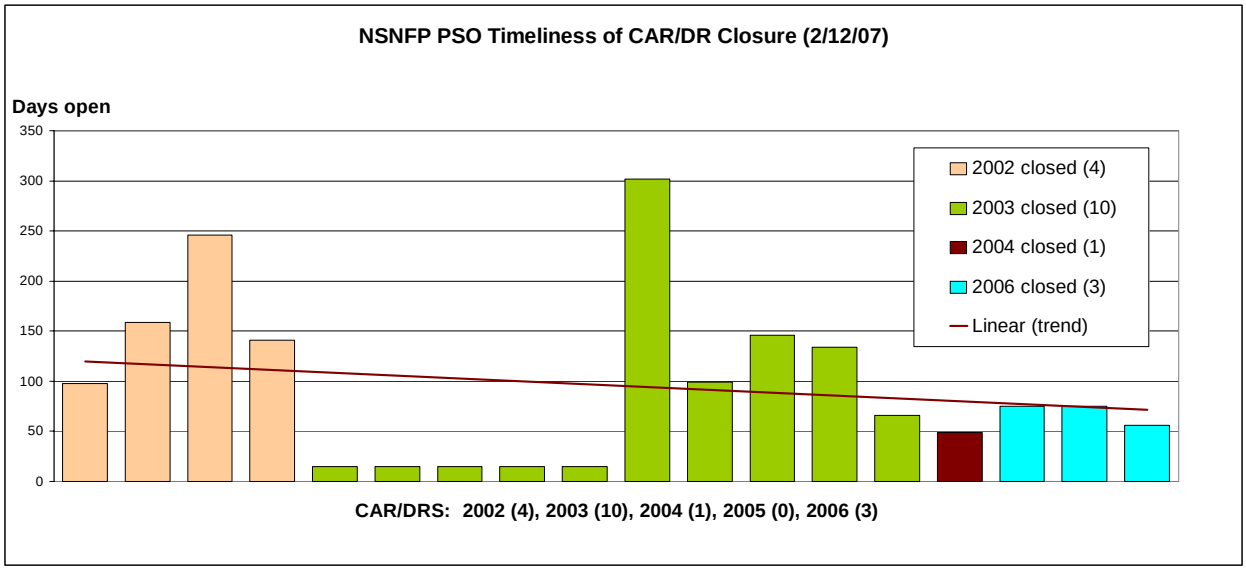
Appendix B - Timeliness of Deficiency Report Closure through February 12, 2007

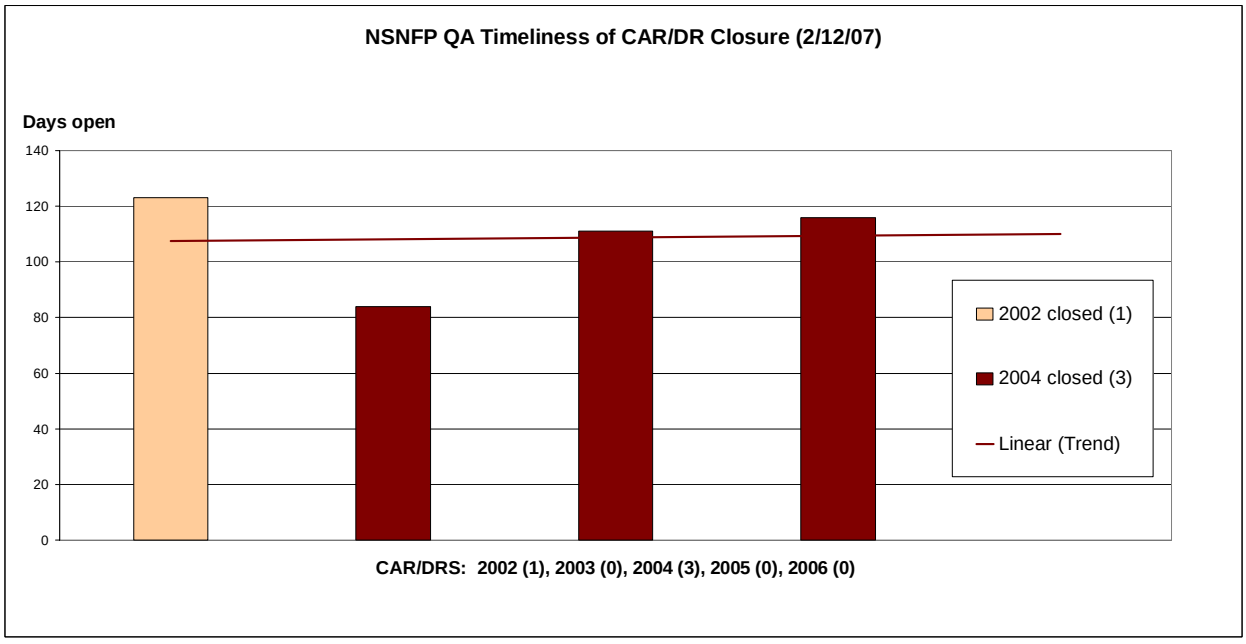
Page Intentionally Left Blank

Appendix B

Timeliness of Deficiency Report Closure through February 12, 2007

(Open reports are indicated in black; CDAs [corrected during audit] and EM-RW condition reports are not shown)





Page Intentionally Left Blank

Appendix C - Deficiency Reports

Page Intentionally Left Blank

Appendix C

Deficiency Reports
(Status February 12, 2007)

Report	Resp Org	Signif	Open	Subject	Direct	Root	Close	Days	Type
02-NSNF-AU-001-CDA-003	NSNFP QA	NO	5/30/02	B.01.1	03 A		5/30/02	0	CDA
02-NSNF-AU-001-DR-001	NSNFP QA	NO	5/30/02	A.03.2	01 C		9/30/02	123	DR
02-NSNF-AU-001-CAR-001	NSNFP	YES	5/30/02	G.02.1	01 C	03 A f	1/31/03	246	CAR
02-NSNF-AU-001-CDA-001	NSNFP	NO	5/30/02	K.05.3	02 A b		5/30/02	0	CDA
02-NSNF-AU-001-CDA-002	NSNFP	NO	5/30/02	E.05	01 C		5/30/02	0	CDA
02-NSNF-AU-001-DR-002	NSNFP	NO	5/30/02	A.03.2.1	01 B		9/5/02	98	DR
02-NSNF-AU-001-DR-003	NSNFP	NO	5/30/02	B.06	03 A		11/5/02	159	DR
02-NSNF-AU-001-CAR-002R1	NSNFP	YES	8/21/02	A.03.2.1	03 A d	03 A d	1/9/03	141	CAR
02-SUPP-S-006-CDA-001	NSNFP Supplier	NO	10/8/02	F.05.3	02 A b		10/8/02	0	CDA
EM-ARC-02-10/ EM(0)-03-D-004	NSNFP QA	NO	10/17/02	U.06.3.2	01 A a		4/11/03	176	CR
EM-ARC-02-10/ EM(0)-03-D-005	NSNFP QA	NO	10/17/02	G.06.3.4	02 A d		1/8/03	83	CR
EM-ARC-02-10/ EM(0)-03-D-007	NSNFP QA	NO	10/17/02	P.04.5.2	02 A d		1/9/03	84	CR
EM-ARC-02-10/ EM(0)-03-D-006	NSNFP	NO	10/17/02	V.01.3	01 A a		4/11/03	176	CR
03-NSNF-S-001-CDA-001	NSNFP QA	NO	12/6/02	B.12.1.2	02 A c		12/6/02	0	CDA
BQA-FS-03-04-DR-001	NSNFP	NO	2/11/03	D.03.1	04 B e		2/26/03	15	DR
BQA-FS-03-04-DR-002	NSNFP	NO	2/11/03	D.02.3	02 A		2/26/03	15	DR
BQA-FS-03-04-DR-003	NSNFP	NO	2/11/03	E.03.3.1	01 B c		2/26/03	15	DR
BQA-FS-03-04-DR-004	NSNFP	NO	2/11/03	B.05.6	02 A b		2/26/03	15	DR
BQA-FS-03-04-DR-005	NSNFP	NO	2/11/03	B.05.4	01 B a		2/26/03	15	DR
03-NSNF-S-005-CDA-001	NSNFP QA	NO	5/7/03	Q.08.1.1	02 A b		5/7/03	0	CDA
03-NSNFP-07/09-DR-001	NSNFP	NO	7/9/03	C.01.2	02 A d		5/6/04	302	DR
03-NSNFP-08/14-DR-001	NSNFP	NO	8/14/03	F.05.3	03 A c		11/21/03	99	DR
03-NSNFP-10/09-DR-001	NSNFP	NO	10/10/03	D.01.3	01 B d (2)		3/4/04	146	DR
03-SUPP-S-001-DR-001	NSNFP Supplier	NO	10/10/03	B.12.1	03 B d		3/4/04	146	DR
03-NSNFP-10/22-DR-001	NSNFP	NO	10/22/03	D.01.6	05 B a		3/4/04	134	DR
04-NSNF-S-001-DR-001	NSNFP	NO	12/23/03	D.01.3	02 A d		2/27/04	66	DR
04-NSNF-AU-001-CDA-002	NSNFP QA	NO	3/8/04	B.12.2.4	02 A		3/8/04	0	CDA
04-NSNF-AU-001-CDA-001	NSNFP QA	NO	3/9/04	B.10.7	02 A		3/9/04	0	CDA
04-NSNF-AU-001-DR-001	NSNFP QA	NO	3/26/04	B.10.1	02 A a		7/15/04	111	DR
04-NSNF-AU-001-DR-002	NSNFP QA	NO	3/26/04	Q.02	02 A b		6/18/04	84	DR
04-NSNF-AU-001-DR-003	NSNFP QA	NO	3/26/04	E.05	02 A		7/20/04	116	DR
RW NSNF(EM)-04-D-024	NSNFP	NO	5/21/04	B.01.3	01 B g (4)		1/5/05	229	CR
RW NSNF(EM)-04-D-025	NSNFP	NO	5/21/04	B.04.4	03 A c		1/5/05	229	CR
04-NSNFP-5/13-DR-001	NSNFP	NO	5/26/04	B.10.2	05 B b		7/14/04	49	DR
04-NSNF-S-003-CDA-001	NSNFP	NO	6/17/04	E.05	02 A		6/17/04	0	CDA
04-SUPP-AU-001-CDA-001	NSNFP Supplier	NO	7/28/04	I.02	04 C a		7/28/04	0	CDA
05-NSNF-S-002-CDA-001	NSNFP	NO	11/11/04	Q.02.1.2	02 A d		11/11/04	0	CDA
05-NSNF-AU-001-CDA-001	NSNF QA	NO	2/11/05	B.06.2	02 A		2/11/05	0	CDA
05-NSNF-AU-001-CDA-002	NSNF QA	NO	2/11/05	R.07.2	02 A		2/11/05	0	CDA
NSNFP(EM)-05-D-027	NSNF QA	NO	3/03/05	R.06.6	02 A b		3/03/05	0	CR
NSNFP(EM)-05-D-028	NSNF QA	NO	3/03/05	G.09.5	02 A d		3/03/05	0	CR
05-SUPP-AU-002-CDA-001	NSNFP Supplier	NO	3/14/05	L.03.1.1	02 A d		3/14/05	0	CDA
06-NSNF-AU-001-CDA-001	NSNF QA	NO	4/6/06	B.01.2.3	01 B		4/6/06	0	CDA
NSNFP (EM)-06-D-025	NSNF QA	NO	4/24/06	Q.02.2	02 A b		2/12/07	294	CR
NSNFP (EM)-06-D-026	NSNF QA	NO	4/24/06	R.01.1	02 A b		4/24/06	0	CR
06-NSNF-S-001-DR-001	NSNFP	NO	7/20/06	D.01.3.1.2	01 B g (4)		10/3/06	75	DR
06-NSNF-S-001-DR-002	NSNFP	NO	7/20/06	C.02.7	05 A d		10/3/06	75	DR
06-NSNF-8/10/06-DR-001	NSNFP	NO	8/11/06	A.02	02 A f		10/6/06	56	DR
07-SUPP-S-001-DR-001	NSNFP Supplier	NO	12/15/06	Q.05.2	02 A d		1/18/07	34	DR

Appendix C Legend

Report Identification of Deficiency Report (DR), Corrective Action Report (CAR), or Condition Corrected during Audit (CDA) report number.

Resp Org Organization responsible for correcting the condition.

NSNFP QA	National Spent Nuclear Fuel Program Quality Assurance Staff
NSNFP PSO	National Spent Nuclear Fuel Program Support Organization

Signif Significant condition adverse to quality as defined by NSNFP Procedure 16.02.

Open Date of NSNFP Quality Assurance Staff Manager (QASM) approval for issuance.

Subject Subject code based on the QARD requirement violated.

Direct Direct cause code based on the direct cause of the condition identified in the report. Appendix D lists the cause codes used by NSNFP Procedure 16.03.

Root For CARs only: Root cause code based on the root cause of the condition identified in the report. Appendix D lists the cause codes used by NSNFP Procedure 16.03.

Close Date of NSNFP QASM approval for closure.

Days Duration in number of days the deficiency report remains open until verified as closed by the NSNFP QASM. This is computed as the difference between the open and closure dates.

Type Identifies the type of deficiency:
CR denotes a DOE EM-RW Condition Report for a condition adverse to quality
DR denotes a deficiency report for a condition adverse to quality
CAR denotes a significant condition adverse to quality
CDA denotes a condition corrected during the audit or surveillance.

Status The data analyses and trend charts were based on the status at the end of the calendar year.

Appendix D - Cause Codes

Page Intentionally Left Blank

Appendix D—Cause Codes

Code	Description
01	PROCEDURES/IMPLEMENTING DOCUMENTS
01 A	Procedure not used
01 A a	No/incomplete documents/procedure
01 A b	Lost/missing documents/procedure
01 A c	Procedure difficult to use
01 A d	Procedure not available or inconvenient to use
01 A e	Procedure use not required but should be
01 B	Inadequate/wrong procedure
01 B a	Typographical error
01 B b	Sequence wrong
01 B c	Technical facts/data wrong
01 B d	Requirements:
01 B d (1)	updates not incorporated
01 B d (2)	not covered/addressed
01 B e	Wrong documents/procedure used
01 B f	Wrong revision used
01 B g	Implementing documents/process:
01 B g (1)	not adequate/can't be followed
01 B g (2)	Incomplete
01 B g (3)	does not exist
01 B g (4)	Does not describe HOW the requirement will be implemented
01 B h	Conflicting instructions
01 C	Error in following the procedure
01 C a	Format confusing
01 C b	More than one action per step
01 C c	Multiple references
01 C d	No signoff space
01 C e	Checklist misused
01 C f	Information/Data/Computation wrong or incomplete
01 C g	Ambiguous instructions
01 C h	Inadequate limits/parameters
01 D	Self imposed requirement - not needed for QARD compliance
02	PERSONNEL - HUMAN PERFORMANCE
02 A	Lack of attention to a task
02 A a	Carelessness
02 A b	Oversight
02 A c	Work overload
02 A d	Procedure not used, or used improperly
02 A e	Wrong revision used
02 A f	Lack of direction
02 B	Lack of Qualification
03	MANAGEMENT SYSTEM
03 A	Standards, Policies, Administrative Controls (SPAC)
03 A a	No SPAC
03 A b	SPAC not used
03 A c	Inadequate communication of SPAC
03 A d	SPAC Recently changed
03 A e	Inadequate drawings/prints
03 A f	Inadequate accountability
03 B	Immediate supervision
03 B a	Inadequate job/task analysis
03 B b	No preparation/planning
03 B c	Inadequate selection of performer(s)
03 B c (1)	Individual not qualified
03 B c (2)	Team selection not balanced/adequate
03 B d	Performers not trained
03 B e	No supervision during work
03 B f	Infrequent task
03 C	Communications
03 D	No/late communication
03 E	Misunderstood verbal communication
03 F	Audits/Evaluations
03 F a	No Audits/Evaluations
03 F b	Audit checklist misused
04	TRAINING
04 A	No training
04 A a	Decided not to train
04 A b	No learning objective
04 B	Lack of understanding
04 B a	Learning objectives need improvement
04 B b	Lesson plan need improvement
04 B c	Training instructions need improvement
04 B d	Testing need improvement
04 B e	Continued/Refresher training need improvement
04 C	Inadequate training methods
04 C a	Incomplete training
04 C b	Inadequate facilities
04 C c	Continuous training inadequate
04 C d	Inadequate testing or measure of aptitude
05	DESIGN/SCIENTIFIC INVESTIGATION
05 A	Design Documents/ Scientific Investigation
05 A a	Documents do not exist
05 A b	Data/computation wrong, incomplete, or less than adequate
05 A c	Requirements:
05 A c (1)	not identified
05 A c (2)	incorrectly identified
05 A d	Scientific investigation not performed per study plan
05 A e	Problems not anticipated in design or investigation
05 A f	Equipment environment not considered
05 B	Technical Review
05 B a	Review not performed
05 B b	Review inadequate
05 B c	Reviewer lack of independence
06	FABRICATION/INSTALLATION
06 A	Fabrication/installation
06 A a	Fabrication/installation error
06 A b	Fabrication/installation not per design
06 A c	Wrong sequence fabrication/installation
06 A d	Wrong material
06 A e	Defective material
06 A f	Lack of proper tools used for fabrication/installation
06 B	Quality Control
06 B a	No inspection
06 B b	Wrong inspection instructions
06 B c	Wrong inspection technique
07	RELIABILITY SYSTEM
07 A	Inadequate Preventative Maintenance
07 A a	No preventative maintenance for equipment
07 A b	Inadequate preventative maintenance for equipment
07 B	Unreliable Equipment
07 B a	Equipment past design lifetime
07 B b	Equipment repeated failure, previous corrective action inadequate
08	SOFTWARE
08 A	Computer software controls
08 A a	Inadequate software design
08 A b	Inadequate validation, verification or testing
08 A c	Defects:
08 A c (1)	Inadequate defect report
08 A c (2)	Inadequate defect resolution
08 A d	Inadequate software maintenance
08 A e	Inadequate software identification
08 B	Inadequate user information manuals
08 C	Inadequate control of usage
08 D	Inadequate data update
09	PROCUREMENT
09 A	Vendor not in the Approved Supplier List
09 B	Vendor not qualified
09 C	Receiving inspection
09 C a	No receiving inspection
09 C b	Inadequate Receiving inspection
10	MISCELLANEOUS OR MULTIPLE AREAS
10 A	Multiple Causes Present
10 B	Material/Equipment Inadequate
10 C	Unknown
10 D	Natural Causes
10 E	Planned Failure