



November 25, 2019

Ms. Jennifer Stokes, Contracting Officer  
Portsmouth/Paducah Project Office  
U.S. Department of Energy  
1017 Majestic Drive, Suite 200  
Lexington, KY 40513-0066

**DE-EM0003733: Deliverable 126, Revision to Image Quality Statistical Sampling Plan – For Approval**

Dear Ms. Stokes:

Swift & Staley Inc. (hereinafter referred to as Swift & Staley Team [SST]) is pleased to submit a revision of the subject deliverable for your review, comments, and/or approval. A redline version is also enclosed for your convenience.

If you have any questions please contact Shannon Wathen, Director of Records Management and Document Control, at (270) 441-5413.

Sincerely,

A handwritten signature in black ink, appearing to read "Tammy Courtney".

*for* Tammy Courtney  
Project Manager

TC:SW:cds

Enclosures: As stated

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**Enclosure 1**  
**Revision to Image Quality Statistical Sampling Plan – For Approval**



## IMAGE QUALITY STATISTICAL SAMPLING PLAN

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Tammy Courtney  
Project Manager

Effective Date: \_\_\_\_\_

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## REVISION SUMMARY

Rev. No.	Description of Change	Pages	Date
0	<b>Initial Release</b> – Paducah Infrastructure Support Services Contract Number DE-EM0003733.	All	01/29/16
1	Reconcile U.S. Department of Energy comments.	1, 2, 3	02/29/16
2	Complete re-write. Revised to address Issues IM-2017-147 through 150.	All	06/23/17
3	Formatted into new template, previous no. SSI.DC-1008. (Deliverable 126). Updated current organizational functions in Section 1.0. Updated Statistical Sampling Variables, Table 1. Removed evaluation criteria and inserted reference to PGDP-RM-PR-001, <i>Records Management</i> .	All	11/25/19

## ACRONYM LIST

Ac	Acceptance number
ANSI	American National Standard Institute
AQL	Acceptance Quality Limit
ASQ	American Society for Quality
DOE	U.S. Department of Energy
ERMS	Electronic Records Management System
IQSSP	Image Quality Statistical Sampling Plan
NARA	National Archives and Records Administration
PGDP	Paducah Gaseous Diffusion Plant
RMC	Records Management Center
SST	Swift & Staley Team

DRAFT

## 1.0 INTRODUCTION

Swift & Staley Inc. (hereinafter referred to as Swift & Staley Team [SST]) is responsible for the records management function for the U.S. Department of Energy (DOE) at the Paducah Gaseous Diffusion Plant (PGPD) site. SST serves as the Paducah site-wide Records Custodian for historical records and for newly-generated records for DOE prime contractors and their subcontractors. SST operates the Records Management Center (RMC) to manage government-owned records that SST will generate or receive during the term of DE-EM0003733, *Paducah Infrastructure Support Services Contract*, and legacy records whose custodianship was assumed by SST at the inception of SST's contract with DOE. Government-owned records are defined in Section I.140 of DE-EM0003733, *Paducah Infrastructure Support Services Contract*.

SST RMC receives electronic files from DOE contractors, DOE, and internal customers on a daily basis. In lieu of a 100% quality check, DOE has indicated that a statistically-based approach is acceptable to reduce the time and effort to perform the quality checks prior to accepting the records into the SST electronic records management system (ERMS). This Image Quality Statistical Sampling Plan (IQSSP) has been developed and based on American National Standard Institute/American Society for Quality (ANSI/ASQ) Z1.4 2003, *Sampling Procedures and Tables for Inspections by Attributes*.

SST is committed to maintaining an efficient and economical Records Management Program. The Records Management Program is a vital function of the SST organization. The Director of Records Management and Document Control reports to the Project Manager.

## 2.0 SCOPE

This sampling plan applies to electronic records that are in a format that meets DOE and National Archives and Records Administration (NARA) requirements and have been submitted to the SST RMC for retention in the ERMS.

## 3.0 OVERVIEW

This plan describes the steps needed to perform the sampling, evaluation, and resolution process needed to enforce the desired Acceptance Quality Limit (AQL) of 10% Nonconforming Items. The steps can be summarized as follows:

- Determine the size of the sample needed,
- Draw the sample,
- Evaluate the sample, and
- Resolve nonconformances and accept or reject the lot.

## 4.0 DETERMINE THE SIZE OF THE SAMPLE NEEDED

The lot for this sampling plan is either the set of electronic files from scanning, converting, or digitizing other media type records, or the set of electronic files submitted to SST in a given time period by DOE, another prime contractor, or an internal customer.

The unit for this sampling plan is a record. The record may be generated from a single page of text, photograph, drawing, computer disc, or a multi-page document such as a plan, report, or log book.

The sample size is the number of records that must be sampled from the lot. It is determined by reading the number in the sample size column in the row that corresponds with the lot size in Table 1.

ANSI/ASQ Z1.4-2003, *Sampling Procedures and Tables for Inspection by Attributes*, requires that an AQL be established. The AQL represents the worst tolerable process average when a continuing series of lots is submitted for acceptance sampling. The Director of Records Management and Document Control and DOE have established the AQL to be 10%, meaning that lots that pass inspection may still have as many as 10% of the scanned records that would not meet one or more of the acceptance criteria.

The values in Table 1 come from Table I and Table II-A of ANSI/ASQ Z1.4 2003, *Sampling Procedures and Tables for Inspections by Attributes*.

Table 1. Statistical Sampling Variables

IM-2017-147 & 148

Lot Size			Sample Size	Ac
2	to	8	2	1
9	to	15	3	1
16	to	25	5	1
26	to	50	8	2
51	to	90	13	3
91	to	150	20	5
151	to	280	32	7
281	to	500	50	10
501	to	1,200	80	14
1,201	to	3,200	125	21
3,201	to	10,000	200	21
10,001	to	35,000	315	21
35,001	to	150,000	500	21
150,001	to	500,000	800	21
500,001	and over		1,250	21

Ac = Acceptance number

## 5.0 IDENTIFY AND DRAW THE SAMPLE

To identify and select the sample set, a set of random numbers that is equal in quantity to the sample size, and with values from one to the number of records in the lot, is generated by computer. The records from the lot that correspond to those random numbers comprise the sample set.

## 6.0 EVALUATE THE SAMPLE

The records in the sample set are evaluated against the criteria for acceptance. Those criteria derive from DOE and NARA requirements, and can be found in PGDP-RM-PR-001, *Records Management*.

Failure of any one of the criteria in a single instance in a record results in a failure for that record.

## 7.0 RESOLVE NONCONFORMANCES AND ACCEPT OR REJECT THE LOT

IM-2017-149

If a record in the sample fails the quality check, it is returned to the originator for correction and inspected again, individually, on its resubmittal.

When historical records are already in an electronic format and the original record is no longer available, SST performs as many of the acceptance checks as possible, and identifies any criteria that failed but could not be verified.

If the number of failed records is greater than the Acceptance ( $A_c$ ) number in Table 1, the entire lot will be rejected. Rejection of the lot will mean that the originator will be responsible for the performance of a 100% quality reinspection. After the reinspection, the lot will be resubmitted to SST RMC and resampled.

## 8.0 REFERENCES

- ANSI/ASQ Z1.4 2003, *Sampling Procedures and Tables for Inspections by Attributes*
- PGDP-RM-PR-001, *Records Management*

**Enclosure 2**

**Redline - Revision to Image Quality Statistical Sampling Plan – For Approval**



## IMAGE QUALITY STATISTICAL SAMPLING PLAN

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Tammy Courtney  
Project Manager

Effective Date: \_\_\_\_\_

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## ACRONYM LIST

<u>Ac</u>	<u>Acceptance number</u>
ANSI	American National Standard Institute
AQL	Acceptance Quality Limit
ASQ	American Society for Quality
DOE	U.S. Department of Energy
<u>dpi</u>	<u>Dots Per Inch</u>
ERMS	Electronic Records Management System
<u>jpeg or jpg</u>	<u>Joint Photographic Experts Group</u>
IQSSP	Image Quality Statistical Sampling Plan
NARA	National Archives and Records Administration
<u>OCR</u>	<u>Optical Character Recognition</u>
<u>pdf</u>	<u>Portable Document Format</u>
PGDP	Paducah Gaseous Diffusion Plant
RMC	Records Management Center
SST	Swift & Staley Team
<u>tiff</u>	<u>Tagged Image File Format</u>

## 1.0 INTRODUCTION

Swift & Staley Inc. (hereinafter referred to as Swift & Staley Team [SST]) is responsible for the records management function for the U.S. Department of Energy (DOE) at the Paducah Gaseous Diffusion Plant (PGPD) site. SST serves as the Paducah site-wide Records Custodian for historical records and for newly-generated records for DOE prime contractors and their subcontractors. SST operates the Records Management Center (RMC) to manage ~~unclassified,~~ government-owned records that SST will generate or receive during the term of DE--EM0003733, *Paducah Infrastructure Support Services Contract*, and legacy records whose custodianship was assumed by SST at the inception of SST's contract with DOE. Government-owned records are defined in Section I.140 of DE--EM0003733, *Paducah Infrastructure Support Services Contract*.

SST ~~Records Department~~RMC receives electronic files from DOE contractors, DOE, and internal customers on a daily basis. In lieu of a 100% quality check, DOE has indicated that a statistically-based approach is acceptable to reduce the time and effort to perform the quality checks prior to accepting the records into the SST electronic records management system (ERMS), ~~Documentum~~. This Image Quality Statistical Sampling Plan (IQSSP) has been developed and based on American National Standard Institute/American Society for Quality (ANSI/ASQ) Z1.4 2003, *Sampling Procedures and Tables for Inspections by Attributes*.

SST is committed to maintaining an efficient and economical Records Management Program. The Records Management Program is ~~placed organizationally in the Integrated Services~~Records Management a vital function of the SST organization, ~~and the Senior Records Manager~~Director of Records Management and Document Control reports to the ~~Project Manager, Director of Integrated Services~~.

## 2.0 SCOPE

This sampling plan applies to electronic records that are in a format that meets DOE and National Archives and Records Administration (NARA) requirements and have been submitted to the SST ~~Records Department~~RMC for retention in the ERMS.

## 3.0 OVERVIEW

This plan describes the steps needed to perform the sampling, evaluation, and resolution process needed to enforce the desired Acceptance Quality Limit (AQL) of 10% Nonconforming Items. The steps can be summarized as follows:

- Determine the size of the sample needed,
- Draw the sample,

- Evaluate the sample, and
- Resolve nonconformances and [disposition-accept or reject](#) the lot.

#### 4.0 DETERMINE THE SIZE OF THE SAMPLE NEEDED

The lot for this sampling plan is either the set of electronic files from scanning, [converting, or digitizing other media type records a box of material](#) or the set of electronic files submitted to SST in a given time period by DOE, another prime contractor, or an internal customer.

The unit for this sampling plan is a record. The record may be [generated from](#) a single page of text, photograph, drawing, computer disc, or a multi-page document such as a plan, report, or log book.

The sample size is the number of records that must be sampled from the lot. It is determined by reading the number in the sample size column in the row that corresponds with the lot size in Table 1.

ANSI/ASQ Z1.4-2003, *Sampling Procedures and Tables for Inspection by Attributes*, requires that an AQL be established. The AQL represents the worst tolerable process average when a continuing series of lots is submitted for acceptance sampling. The [Senior Director of Records Management and Document Control](#) and DOE have established the AQL to be 10%, meaning that lots that pass inspection may still have as many as 10% of the scanned records that would not meet one or more of the acceptance criteria.

The values in Table 1 come from Table I and Table II-A of ANSI/ASQ Z1.4 2003, *Sampling Procedures and Tables for Inspections by Attributes*.

~~Table 1.~~ **Table 1.** Statistical Sampling Variables

IM-2017-147 & 148

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51	to	90	13	3
91	to	150	20	5
151	to	280	32	7
281	to	500	50	10
501	to	1,200	80	14
1,201	to	3,200	125	21
3,201	to	10,000	200	21
<u>10,001</u>	<u>to</u>	<u>35,000</u>	<u>315</u>	<u>21</u>
<u>35,001</u>	<u>to</u>	<u>150,000</u>	<u>500</u>	<u>21</u>
<u>150,001</u>	<u>to</u>	<u>500,000</u>	<u>800</u>	<u>21</u>
<u>500,001</u>	<u>and</u>	<u>over</u>	<u>1,250</u>	<u>21</u>

Ac = Acceptance number

## 5.0 IDENTIFY AND DRAW THE SAMPLE

To identify and select the sample set, a set of random numbers that is equal in quantity to the sample size, and with values from one to the number of records in the lot, is generated by computer. The records from the lot that correspond to those random numbers comprise the sample set.

## 6.0 EVALUATE THE SAMPLE

The records in the sample set are evaluated against the criteria for acceptance. Those criteria derive from DOE and NARA requirements, ~~as listed below~~ and can be found in PGDP-RM-PR-001, Records Management.:

- ~~• All pages are scanned/converted.~~
- ~~• Optical character recognition (OCR) process has been properly completed.~~
- ~~• Resolution is 300 dots per inch (dpi) or greater.~~

- ~~Page count in electronic file equals the hardcopy page count.~~
- ~~Electronic copy and hardcopy are identical.~~
- ~~Pages are rotated correctly.~~
- ~~Markings are clear and legible.~~
- ~~Poor quality pages are stamped "Poor Quality Original".~~
- ~~Digital photographs are in portable document format (.pdf), tagged image file format (.tiff), or joint photographic experts group (.jpeg or .jpg) format.~~

Failure of any one of the ~~listed~~ criteria in a single instance in a record results in a failure for that record.

## 7.0 RESOLVE NONCONFORMANCES AND DISPOSITION ACCEPT OR REJECT THE LOT

IM-2017-149

If a record in the sample fails the quality check, it is returned to the originator for correction and inspected again, individually, on its resubmittal.

When historical records are already in an electronic format and the original record is no longer available, SST performs as many of the acceptance checks as possible, and identifies any criteria that failed but could not be verified.

If the number of failed records is greater than the Acceptancee (Ac) number in Table 1, the entire lot will be rejected. Rejection of the lot will mean that the originator will be responsible for the performance of a 100% quality reinspection, will be conducted on the lot by the originator, then After the reinspection, the lot will be resubmitted to SST RMC records and resampled.

## 8.0 REFERENCES

- ANSI/ASQ Z1.4 2003, Sampling Procedures and Tables for Inspections by Attributes
- PGDP-RM-PR-001, Records Management