

**Root DNSSEC KSK**  
Administrative Ceremony  
Safe #1 Equipment Media Deposit

Sunday 28 April 2024

Root Zone KSK Operator Key Management Facility  
1920 East Maple Avenue, El Segundo, CA 90245, USA

This ceremony is executed in accordance with the DNSSEC Practice Statement for the Root Zone KSK Operator 7th Edition (2024-03-15)

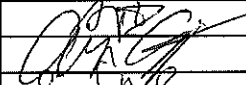
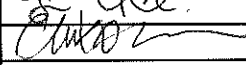

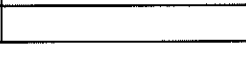
## Abbreviations

**AUD** = Third Party Auditor      **CA** = Ceremony Administrator      **CO** = Crypto Officer  
**EW** = External Witness      **FD** = Flash Drive      **HSM** = Hardware Security Module  
**IW** = Internal Witness      **KMF** = Key Management Facility      **KSR** = Key Signing Request  
**MC** = Master of Ceremonies      **OP** = Operator      **PTI** = Public Technical Identifiers  
**RKSH** = Recovery Key Share Holder      **RKOS** = RZ KSK Operations Security      **RZM** = Root Zone Maintainer  
**SA** = System Administrator      **SKR** = Signed Key Response      **SMK** = Storage Master Key  
**SO** = Security Officer      **SSC** = Safe Security Controller      **STM** = Secure Transport Mode  
**SW** = Staff Witness      **TCR** = Trusted Community Representative  
**TEB** = Tamper Evident Bag (AMPAC: #GCS1013, #GCS0912, #GCS1216 or MMF Industries: #2362010N20, #2362011N20)

## Participants

Key Ceremony roles are described on <https://www.iana.org/help/key-ceremony-roles>

**Instructions:** At the end of the ceremony, participants sign IW's script. IW records time of completion.

Title / Roles	Printed Name	Signature	Date	Time
CA	Andres Pavez / PTI		2024 Apr 20	4:53
IW	Aaron Foley / PTI			
SSC1	Sabrina Tanamal / PTI			
IW2	Yuko Yokoyama / ICANN			

**By signing this script, you are declaring that this document is a true and accurate record of the Root DNSSEC KSK ceremony to the best of your knowledge, and you agree that your personal data will be processed in accordance with the ICANN Privacy Policy available at <https://www.icann.org/privacy/policy>**

## Instructions for a Root DNSSEC KSK Administrative Ceremony

The Root DNSSEC Key Signing Key (KSK) Administrative Ceremony is a scripted meeting where individuals with specific roles perform tasks related to support the operation of the root zone KSK. Administrative Ceremonies include all ceremonies that do not require use of the private key component of the root zone DNSSEC KSK, such as enrollment or replacement of a trusted role, media deposit or extraction, equipment acceptance testing or maintenance, etc. The process is audited by a third party firm for compliance with SOC 3 framework. The script and recordings are published online for the wider Internet community to review.

### Ceremony Guidelines:

- The CA leads the ceremony
- Only a CA, IW, or SA can enter and escort other participants into Tier 4 (Key Ceremony Room)
- Dual Occupancy is enforced. IW with CA or SA must remain inside Tier 4 (Key Ceremony Room) if participants are present in the room
- During a ceremony a CA, IW, or SA may escort participants out of Tier 4 (Key Ceremony Room) at the CA's discretion if Tier 5 (Safe Room) is not occupied
- All participants are required to sign in and out of Tier 4 (Key Ceremony Room) using the visitor log located in Tier 3
- The SA begins recording with the audit cameras shortly before the ceremony begins
- Ceremony participants follow the script step by step in order to attest to the ceremony's proper performance
- The CA reads each step aloud prior to its performance
- Upon the successful completion of a step, the IW will announce and record its time of completion, and initials that step in their script
- A ceremony participant who has cause for concern or detects an issue is encouraged to interrupt the ceremony for discussion. The issue is brought to resolution before the ceremony resumes
- Questions and suggestions for improvement are welcome and can be discussed at any time or after the ceremony during the ceremony debrief

Unplanned events (**exceptions**) during the ceremony are evaluated, documented, and acted upon. It is the CA's sole responsibility to decide on proper actions after consulting with the IW. In either case, an exception is regarded as an incident, and incident handling procedures are enacted.

### Key Management Facility Tiers:

- Tiers 1-3: Consist of the facility areas between the outside environment and the Key Ceremony Room
- Tier 4: Consists of the Key Ceremony Room and is subject to Dual Occupancy
- Tier 5: Consists of the Safe Room (a cage only accessible from the Key Ceremony Room) and is subject to Dual Occupancy
- Tier 6: Consists of Safe #1 (Equipment Safe) and Safe #2 (Credentials Safe)
- Tier 7: Consists of the HSMs stored in Safe #1 (Equipment Safe) and the safe deposit boxes installed in Safe #2 (Credentials Safe)

Some steps during the ceremony may require the participants to recite and/or confirm identifiers comprised of numbers and letters. When spelling identifiers, the phonetic alphabet shown below should be used:

Character	Code Word	Pronunciation
<b>A</b>	Alfa	AL-FAH
<b>B</b>	Bravo	BRAH-VOH
<b>C</b>	Charlie	CHAR-LEE
<b>D</b>	Delta	DELL-TAH
<b>E</b>	Echo	ECK-OH
<b>F</b>	Foxtrot	FOKS-TROT
<b>G</b>	Golf	GOLF
<b>H</b>	Hotel	HOH-TEL
<b>I</b>	India	IN-DEE-AH
<b>J</b>	Juliet	JEW-LEE-ETT
<b>K</b>	Kilo	KEY-LOH
<b>L</b>	Lima	LEE-MAH
<b>M</b>	Mike	MIKE
<b>N</b>	November	NO-VEM-BER
<b>O</b>	Oscar	OSS-CAH
<b>P</b>	Papa	PAH-PAH
<b>Q</b>	Quebec	KEH-BECK
<b>R</b>	Romeo	ROW-ME-OH
<b>S</b>	Sierra	SEE-AIR-RAH
<b>T</b>	Tango	TANG-GO
<b>U</b>	Uniform	YOU-NEE-FORM
<b>V</b>	Victor	VIK-TAH
<b>W</b>	Whiskey	WISS-KEY
<b>X</b>	Xray	ECKS-RAY
<b>Y</b>	Yankee	YANG-KEY
<b>Z</b>	Zulu	ZOO-LOO
<b>1</b>	One	WUN
<b>2</b>	Two	TOO
<b>3</b>	Three	TREE
<b>4</b>	Four	FOW-ER
<b>5</b>	Five	FIFE
<b>6</b>	Six	SIX
<b>7</b>	Seven	SEV-EN
<b>8</b>	Eight	AIT
<b>9</b>	Nine	NIN-ER
<b>0</b>	Zero	ZEE-RO

## Act 1: Initiate Ceremony

The CA initiates the ceremony by performing the steps below:

- Verify that the audit cameras are recording
- Confirm that all of the ceremony attendees have signed in using the visitor log in Tier 3
- Review emergency evacuation procedures
- Explain the use of personal devices and the purpose of this ceremony
- Verify the time and date so that all entries into the script follow a common time source
- Explain the purpose of the ceremony along with a high-level list of tasks to be completed

### Sign into Tier 4 (Key Ceremony Room)

Step	Activity	Initials	Time
1.1	CA confirms that required audit cameras are recording.	<i>[Signature]</i>	4:41
1.2	CA confirms that all participants are signed into Tier 4 (Key Ceremony Room) log, then performs a roll call using the participants list on page 2.	<i>[Signature]</i>	4:42
1.3	CA asks that any first-time ceremony participants in the room introduce themselves.	<i>[Signature]</i>	4:42

### Emergency Evacuation Procedures and Electronics Policy

Step	Activity	Initials	Time
1.4	CA reviews emergency evacuation procedures with onsite participants.	<i>[Signature]</i>	4:42
1.5	CA explains the use of personal electronic devices during the ceremony.	<i>[Signature]</i>	4:43
1.6	CA summarizes the purpose of the ceremony.	<i>[Signature]</i>	4:43

### Verify the Time and Date

Step	Activity	Initials	Time
1.7	IW enters UTC date (YYYY-MM-DD) and time (HH:MM) using a reasonably accurate clock visible to all in Tier 4 (Key Ceremony Room): Date and time: <u>20240428</u> <u>4:43</u>	<i>[Signature]</i>	4:43
Note: All entries into this script or any logs should follow this common source of time.			

## Act 2: Safe #1 Equipment Media Deposit

CA ensures ceremony materials are secured by executing the following steps:

- Open Safe #1
- Place the ceremony materials generated at the other key management facility
- Close Safe #1

### Open Safe #1 (Tier 6, Equipment Safe)

Step	Activity	Initials	Time
2.1	CA and IW bring the ceremony materials and escort required personnel into Tier 5 (Safe Room.)		4:44
2.2	SSC1 opens Safe #1 while shielding the combination from the camera. Note: SSC begins by rapidly spinning the dial counter-clockwise 15-20 revolutions in order to charge it before stopping at the first number in the combination.		4:45
2.3	Perform the following steps to update the safe log: a) SSC1 removes the existing safe log, then shows the most recent page to the audit camera. b) IW provides the pre-printed safe log to SSC1. c) SSC1 writes the date and time, then signs the safe log where "Open Safe" is indicated. d) IW verifies the entry, then initials it.		4:46

### Deposit the ceremony materials into Safe #1 (Tier 6, Equipment Safe)

Step	Activity	Initials	Time
2.4	CA performs the following steps to place the ceremony materials into the safe: a) Read aloud the TEB number, verify its integrity, then present it to the audit camera above. b) Write the date, time, and signature on the safe log where it is indicated. c) IW verifies the safe log entry, then initials it.  BHSM1W: TEB # BB02639620 / Serial # 718041 ✓ BHSM2W: TEB # BB02639619 / Serial # 718018 ✓ Credential Overwrap #1: TEB # BB02639629 ✓ Credential Overwrap #2: TEB # BB51184307 ✓ HSMFD: TEB # BB02639627 ✓		4:51

### Close Safe #1 (Tier 6, Equipment Safe) Exit Tier 5 (Safe Room)

Step	Activity	Initials	Time
2.5	SSC1 writes the date and time, then signs the safe log where "Close Safe" is indicated. IW verifies the safe log entry then initials it.		4:51
2.6	SSC1 returns the safe log to Safe #1, closes the safe door, pulls up on the handle, then ensures it's locked by spinning the dial at least two full revolutions each way, counter-clockwise then clockwise. CA and IW verify that the safe is locked and the "WAIT" light indicator adjacent to the Tier 5 (Safe Room) exit door is off.		4:51
2.7	CA, IW, and SSC1 leave Tier 5 (Safe Room), returning to Tier 4 (Key Ceremony Room).		4:52

## Act 3: Close the Administrative Ceremony

The CA will finish the ceremony by performing the following steps:

- Read any exceptions that occurred during the ceremony
- Call the ceremony participants to sign the IW's script
- Stop the video recording
- Ensure that all participants are signed out of Tier 4 (Key Ceremony Room) log and escorted out
- Prepare the audit bundle materials

### Participants Sign IW's Script

Step	Activity	Initials	Time
3.1	CA reads all exceptions that occurred during the ceremony.	[Handwritten Initials]	4:52
3.2	CA calls each in-person attendee not seated at the ceremony table to sign the IW's participant list. <b>All signatories declare to the best of their knowledge that this script is a true and accurate record of the ceremony.</b>	[Handwritten Initials]	4:53
3.3	CA reviews IW's script, then signs the participants list.	[Handwritten Initials]	4:53
3.4	IW signs the list and records the completion time.	[Handwritten Initials]	4:54

### Stop Recording

Step	Activity	Initials	Time
3.5	CA stops the audit camera video recording.	[Handwritten Initials]	4:54

## **Appendix A: Audit Bundle Checklist**

### **1. Administrative Ceremony Script (by IW)**

Hard copies of the IW's administrative ceremony script, including notes and attestation. See Appendix B on page 9.

### **2. Audio-Visual Recordings from the Administrative Ceremony (by CA)**

One set for the audit bundle.

### **3. Audit Bundle Information**

All TEBs are labeled **Root DNSSEC KSK Ceremony 53-2**, dated and initialed by IW and CA. An off-site audit bundle is delivered to an off-site storage.

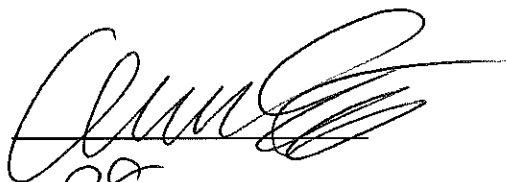


## Appendix B: Administrative Ceremony Script (by IW)

I hereby attest that the Administrative Ceremony was conducted in accordance to this script. Any exceptions that occurred were accurately and properly documented.

IW: **Aaron Foley**

Signature:

A handwritten signature in black ink, appearing to read 'Aaron Foley', written over a horizontal line.

Date: 2024 Apr 28