This is a guidance box. Remove all guidance boxes after filling out the template. Items highlighted in turquoise should be edited appropriately. Items highlighted in green are examples and should be removed. After all edits have been made, all highlights should be cleared.



Insert organization logo by clicking on the placeholder to the left.

Vulnerability Assessment Procedure Template

Replace <organization name> with the name of the organization for the entire document. To do so, perform the following:

* Press “Ctrl” + “H” keys simultaneously.
* Enter “<organization name>” in the Find text box.
* Enter your organization’s full name in the “Replace” text box.
* Click “More”, and make sure “Match case” is ticked.
* Click “Replace All”.
* Close the dialog box.

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| Choose Classification | |  |
| DATE | Click here to add date |  |
| VERSION | Click here to add text |  |
| REF | Click here to add text |  |

Disclaimer

This template has been developed by the National Cybersecurity Authority (NCA) as an illustrative example that can be used by organizations as a reference and guide. This template must be customized and aligned with the <organization name>’s business and relevant legislative and regulatory requirements. This template must be approved by the head of the organization (Authorizing official) or his/her delegate. The NCA is not responsible for any use of this template as is, and it affirms that this template is solely an illustrative example.

Document Approval

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Version Control

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| --- | --- | --- | --- |
| Version Details | Updated by | Date | Version |
| <Insert description of the version> | <Insert individual’s full personnel name> | Click here to add date | <Insert version number> |
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Review Table

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| Upcoming Review Date | Last Review Date | Periodical Review Rate |
| Click here to add date | Click here to add date | <Once a year> |
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# [Purpose](#_heading=h.30j0zll)

This procedure aims to define detailed step-by-step cybersecurity requirements to asses vulnerabilities and protect <organization name>’s information technology assets against threats and cybersecurity vulnerabilities.

The requirements in this procedure are aligned with the cybersecurity requirements issued by the National Cybersecurity Authority (NCA), including but not limited to (ECC-1:2018), (DCC-1:2022), (CSCC-1:2019) and (CCC-1:2020), in addition to other related cybersecurity legal and regulatory requirements.

# [Scope](#_heading=h.1fob9te)

This procedure covers all <organization name>’s information technology assets and applies to all personnel (employees and contractors) in <organization name>.

# [Overview of the Vulnerability Management Process](#_heading=h.nuptowmiwgz3)

The Vulnerability Management Process must be divided into the following phases:



* Prepare Vulnerability Assessment
* Perform Vulnerability Assessment
* Remediate the Vulnerabilities
* Intelligence Threat Feeds

## Phase 1. Prepare Vulnerability Assessment



| No. | Step | Description | Owner/Responsible | Inputs | Outputs | Stakeholders |
| --- | --- | --- | --- | --- | --- | --- |
| 1-1 | Promote Process Owner | Promote a dedicated Process Owner who will be responsible for the implementation and the management of the <organization name>’s Vulnerability Management Program. | <cybersecurity function> | Criteria for the process owner selection | Dedicated process owner has been nominated | <cybersecurity function> |
| 1-2 | Identify Assets | Identify all assets which are in scope of vulnerability management. The authorized hardware and software are documented in the <organization name>'s Asset Management Policy and Standard. | <cybersecurity function> | Information and technology asset register | Identified assets in scope of vulnerability management | <cybersecurity function>  <Information Technology function> |
| 1-3 | Identify Business Criticality of Assets | Verify the business criticality of all assets which are in scope of vulnerability management. | <cybersecurity function> | Identified assets in scope of vulnerability management | Verified business criticality of assets | <all departments of organization> |
| 1-4 | Identify Asset Owners | Identify business and system owners of assets who are responsible for remediating identified vulnerabilities based on agreed KPIs as described in the <organization name>’s Key Performance Indicators for Vulnerability Management. | <cybersecurity function> | Verified business criticality of assets | Identified business and system owners of assets | <cybersecurity function> |
| 1-5 | Identify Stakeholders | Document the identified stakeholders in the <organization name>’s Vulnerability Management Process. | <cybersecurity function> | Identified business and system owners of assets | Documented stakeholders | <cybersecurity function> |
| 1-6 | Implement the Scanning Tool | Implement vulnerability scanning tool suitable for the <organization name>’s network infrastructure, so it is able to scan all assets which are in scope of vulnerability management | <cybersecurity function> | Low level design of the solution | Implemented vulnerability scan solution | <cybersecurity function>  <Information Technology function> |
| 1-7 | Select Methodology | Selecting suitable scanning methodology, by performing authenticated scan either using credential based or agent-based scanning methodology (in case the uncredentialed scan is not suitable and credentialed scan cannot be used due to technical or other limitations), for the identified Critical Assets | <cybersecurity function> | Low level design of the solution | Selected scanning methodology for identified critical assets | <cybersecurity function>  <Information Technology function> |
| 1-8 | Prepare credentialed scan | Create the accounts used for Credentialed Scan, following the <organization name>’s Privileged Access Management Policy. | <Information Technology function> | Selected scanning methodology for identified critical assets | List of critical assets accessible through credential scan | <cybersecurity function>  <Information Technology function> |
| 1-9 | Perform credentialed scan | Perform test credentialed scan (also known as an authenticated scan) to provide a definitive list of required patches and misconfigurations by using credentials to log into systems and applications. | <Information Technology function> | Account created for credential scan for identified critical assets | List of required patches and misconfiguration | <cybersecurity function>  <Information Technology function> |
| 1-10 | Prepare agent based scan | Implement local scan agent (lightweight, low-footprint programs) on the host. | <Information Technology function> | Selected scanning methodology for identified critical assets | List of critical assets, with implemented local scan agent | <cybersecurity function>  <Information Technology function> |
| 1-11 | Perform agent based scan | Perform agent based test scan in order to collect vulnerability, compliance, and system data, and report that information back to the central scan server for analysis. | <Information Technology function> | Implemented local scan agent | List of required patches and misconfiguration | <cybersecurity function>  <Information Technology function> |
| 1-12 | New Asset Onboarding | Ensure the onboarding of new assets in the vulnerability management program in a timely manner, by the necessary processes. | <cybersecurity function> | Updated asset register | New assets onboarded | <Information Technology function> |
| 1-13 | Define Time Window | Verify that the vulnerability scan does not interfere with any other scheduled activities, i.e., Backup, Scheduled Maintenance, etc. | <Information Technology function> | Selected scanning methodology for identified critical assets | Verification of scan interference with other activities | <cybersecurity function>  <Information Technology function> |
| 1-14 | Define Scan Frequency | Define the frequency of the vulnerability scan as described in the <organization name> Vulnerability Management Policy and Standard. | <cybersecurity function> | Selected scanning methodology for identified critical assets | Defined vulnerability scan frequency | <cybersecurity function> |
| 1-15 | Create Report Repository | Creating a central location to store the vulnerability scan reports and the <organization name>’s Vulnerability Register. | <Information Technology function> | Selected scanning methodology for identified critical assets | Central location to store reports | <cybersecurity function>  <Information Technology function> |
| 1-16 | Grant Access to Repository | Ensure that only employee with valid need to know are granted access to this central location as listed in the <organization name>’s Vulnerability Management Policy. | <cybersecurity function> | List of employees with access to central location | Role based access model dedicated for the central repository | <cybersecurity function>  <Information Technology function> |

## Phase 2. Perform Vulnerability Assessment



| No. | Step | Description | Owner/Responsible | Inputs | Outputs | Stakeholders |
| --- | --- | --- | --- | --- | --- | --- |
| 2-1 | Perform Scan | Execute the vulnerability scan as it was documented in the approved change record. | <Information Technology function> | Approved change record | Vulnerability scan report | <cybersecurity function>  <Information Technology function> |
| 2-2 | Monitor Performance | Monitor the performance of both of the vulnerability scan environment as well as the assets being scanned, for the duration of the scan. | <Information Technology function> | Identified critical assets in scope for vulnerability scan | Assets negatively impacted by the scan | <cybersecurity function>  <Information Technology function> |
| 2-3 | Communication During Scan | Communicate any issue with the appropriate stakeholders as described in the change record. | <cybersecurity function> | Assets negatively impacted by the scan | Issue communicated to stakeholders | <all departments of organization> |
| 2-4 | Verify Scan Coverage | Verify that all assets in scope of vulnerability management were scanned successfully | <cybersecurity function> | Vulnerability scan report  Asset register | List of assets missed by the vulnerability scan | <cybersecurity function>  <Information Technology function> |
| 2-5 | Investigate Deviations | Investigate any deviation in a timely manner based on agreed KPIs. | <cybersecurity function> | List of assets missed by the vulnerability scan | Investigated deviation | <cybersecurity function> |
| 2-6 | Repeat Scan | Repeat the vulnerability on the assets, where the scan failed during the previous attempt. | <cybersecurity function> | List of assets missed by the vulnerability scan | Repeated scan | <cybersecurity function>  <Information Technology function> |
| 2-7 | Communicate Scan Results | Communicate the end-result of the scan to the relevant stakeholders | <cybersecurity function> | Vulnerability scan report | Scan result made available at central repository | <cybersecurity function> |
| 2-8 | Communicate cloud vulnerabilities | Notify the CSTs (Cloud Service Team) of identified vulnerabilities that may be affecting them and put safeguards in place. | <cybersecurity function> | Scan result made available at central repository | Cloud vulnerabilities communicated | <cybersecurity function> |
| 2-9 | Monitor Process Performance | Measure key performance indicators (KPI) to ensure the continuous improvement of vulnerability management. | <cybersecurity function> | Vulnerability scan report | KPI report | <cybersecurity function> |

## Phase 3. Remediate the Vulnerabilities

| No. | Task | Description | Owner/Responsible | Inputs | Outputs | Stakeholders |
| --- | --- | --- | --- | --- | --- | --- |
| 3-1 | Validate Scan Results | Validate the result of the vulnerability scan. | <cybersecurity function> | Vulnerability scan report | Validated end results | <cybersecurity function> |
| 3-2 | Update Exception List | Add false alerts to the exception list. | <cybersecurity function> | Validated end results | False alerts added to exception list | <cybersecurity function>  <Information Technology function> |
| 3-3 | Perform Risk Assessment | Analyze vulnerabilities and their associated risks based on the <organization name>’s Risk Management Policy. | <cybersecurity function> | Validated end results | Analyzed vulnerabilities and risks | <cybersecurity function> |
| 3-4 | Update Vulnerability Register | Document all identified vulnerabilities in the <organization name>’s Vulnerability Register. | <cybersecurity function> | Analyzed vulnerabilities and risks | Updated vulnerability register | <cybersecurity function> |
| 3-5 | Remediation Planning | Defined corrective actions for each identified vulnerability based on their risk level. | <cybersecurity function> | Updated vulnerability register | Defined action plan to assess vulnerability | <cybersecurity function> |
| 3-6 | Update Exception List | Add vulnerabilities with tolerable risk level to the exception list. | <cybersecurity function> | Updated vulnerability register | Updated exception list | <cybersecurity function> |
| 3-7 | Remediation | Implement corrective actions in accordance with the <organization name>’s Patch Management Policy and Standard. | <Information Technology function> | Defined action plan to assess vulnerability | Implemented corrective actions | <cybersecurity function>  <Information Technology function> |
| 3-8 | Remediation of OT/ICS | Remediate the newly discovered critical vulnerabilities presenting significant risks to the OT/ICS environment in a safe manner. | <Information Technology function> | Defined action plan to assess vulnerability | Implemented corrective actions | <cybersecurity function>  <Information Technology function> |
| 3-9 | Validate Remediation | Verify the success of the implementation of the corrective actions by rerunning the vulnerability scan on the relevant assets. | <cybersecurity function> | Implemented corrective actions | Verification of implementation | <cybersecurity function>  <Information Technology function> |
| 3-10 | Notify CSP | Notify the management of CSP (Content Security Policy), that the safeguards in relation to cloud-based vulnerabilities are in place. | <cybersecurity function> | Verification of implementation | Result of implementation communicated | <cybersecurity function> |
| 3-11 | KPI reporting | Measure key performance indicators (KPI) described in the Key Performance Indicators section of the document to ensure the continuous improvement of vulnerability management. | <cybersecurity function> | Verification of implementation | KPI report | <cybersecurity function> |
| 3-12 | Reporting | Provide regular reporting for the <organization name>’s senior management about the vulnerabilities and subsequent risks as described in the <organization name>’s Risk Management Policy. | <cybersecurity function> | KPI report | Regular reporting to senior management | <cybersecurity function> |

## Phase 4. Intelligence Threat feeds



| No. | Task | Description | Owner/Responsible | Inputs | Outputs | Stakeholders |
| --- | --- | --- | --- | --- | --- | --- |
| 4-1 | Check Threat Feeds | Daily review of potential technical vulnerabilities coming from trusted authorized sources. | <cybersecurity function> | Information from trusted sources | Validated end results | <cybersecurity function> |
| 4-2 | Perform Risk Assessment | Analyze vulnerabilities and their associated risks based on the <organization name>’s Risk Management Policy. | <cybersecurity function> | Validated end results | Analyzed vulnerabilities and risks | <cybersecurity function> |
| 4-3 | Update Vulnerability Register | Document all identified vulnerabilities in the <organization name>’s Vulnerability Register. | <cybersecurity function> | Analyzed vulnerabilities and risks | Updated vulnerability register | <cybersecurity function> |
| 4-4 | Remediation Planning | Define corrective actions for each identified vulnerability based on their risk level. | <cybersecurity function> | Updated vulnerability register | Defined action plan to assess vulnerability | <cybersecurity function> |
| 4-5 | Remediation | Implement the corrective actions based on the <organization name>’s Patch Management Policy and Standard. | <Information Technology function> | Defined action plan to assess vulnerability | Implemented corrective actions | <Information Technology function> |

# [Roles and Responsibilities](#_Roles_and_Responsibilities)

1. **Procedure Owner:** <head of the cybersecurity function>
2. **Procedure Review and Update:** <cybersecurity function>
3. **Procedure Implementation and Execution:** <information technology function>
4. **Procedure Compliance Measurement:** <cybersecurity function>

# [Update](#_الالتزام_بالسياسة) and Review

<cybersecurity function> must review the procedure at least once a year or in case any changes happen to the policy or the regulatory procedures in <organization name> or the relevant regulatory requirements.

# [Compliance](#_Compliance" \o "This section aims to identify the requirements for compliance with this standard and the consequences of incompliance)

1. The <head of the cybersecurity function> will ensure compliance of <organization name> with this procedure on a regular basis.
2. All personnel (employees and contractors) at <organization name> must comply with this procedure.
3. Any violation of this procedure may be subject to disciplinary action according to <organization name>’s procedures.