**POLICY ON CYBER SECURITY AND CYBER RESILIENCE**

**Introduction**

**H K Singhania & Co** is Securities and Exchange Board of India (SEBI) registered Stock broker of the National Stock Exchange of India Ltd. (NSEIL) & BSE LTD

**Background**

SEBI has issued circular No. SEBI/HO/MIRSD/CIR/PB/2018/147 dated December 03, 2018 and SEBI/HO/MIRSD/DOP/CIR/P/2019/109 dated October 15, 2019, providing guidelines on Cyber Security and Cyber Resilience. The objective of the said circular is to adapt to the rapid technological developments in Securities Market which have highlighted the need for robust Cyber and Cyber Resilience at the level of Stock brokers/Depository participants who are performing significant functions in providing services to the holder of Securities.

In order to protect the integrity of data and guard against breaches of Privacy and to comply with the applicable regulations (“HKS”) has framed a policy for implementation to meet the objectives.

**Date of Implementation of the Circular**

Circular shall be effective from April 1, 2019.

It is observed that the level of Cyber-attacks and threats attempt to compromise the Confidentiality, Integrity and Availability (CIA) of the computer systems, networks and databases (Confidentiality refers to limiting access of systems and information to authorized users, Integrity is the assurance that the information is reliable and accurate, and Availability refers to guarantee of reliable access to the systems and information by authorized users).Cyber Resilience is an organization’s ability to prepare and respond to a cyber-attack and to continue operation during, and recover from, a cyber-attack

**Accordingly the following Policies & Procedures have been put in place:-**

**Governance**

**Risk management framework to manage risk to systems, networks and databases from cyber-attacks and threats.**

* Identify, assess, and manage Cyber Security risk associated with processes, information, networks and systems:
* ‘Identify’ critical IT assets and risks associated with such assets.
* ‘Protect’ assets by deploying suitable controls, tools and measures.
* ‘Detect’ incidents, anomalies and attacks through appropriate monitoring tools/processes.
* ‘Respond’ by taking immediate steps after identification of the incident, anomaly or attack.
* ‘Recover’ from incident through incident management and other appropriate recovery mechanisms.
* As a Stock broker trading through APIs based terminal or acting as a depository Participants should refer best practices from international standards like ISO 27001, COBIT 5, etc., or their subsequent revisions, if any, from time to time.
* ISO 27001 is an international standard for the establishment, implementation, maintenance, and continual improvement of an Information Security Management System. The standard is a joint effort by the International Organization for Standardization (ISO) and the International Electro technical Commission (IEC).
* COBIT 5 is a framework from the Information Systems Audit and Control Association (ISACA) for the management and governance of information technology (IT). ... Achieve strategic goals by using IT assistance. Maintain operational excellence by using technology effectively. Keep IT-related risk at an acceptable level.
* The main benefit of implementing ISO 27001 is a systemic Information Security Management System that helps with the identification of critical information, the information security risk assessment of the system, and the implementation of security controls, all of which help to create a secure culture in the organization.
* ISO 27001 is beneficial for the organization in terms of its security.
* The five COBIT 5 principles are:
* Meeting stakeholder needs
* Covering the enterprise end to end
* Applying a single integrated framework
* Enabling a holistic approach
* Separating governance from management
* We have designated Mr. Harish Kumar Singhania to assess, identify, and reduce security and Cyber Security risks, respond to incidents establish appropriate standards and controls and direct the establishment and implementation of processes and procedures as per the Cyber Security Policy.
* A reporting procedure has been designed to facilitate communication of unusual activities and events to the Designated Officer in a timely manner.
* The Designated officer and the technology committee will periodically review instances of cyber-attacks, if any, domestically and globally, and take steps to strengthen Cyber Security and cyber resilience framework.

**Identification**

* We have identified critical assets based on their Sensitivity and criticality for business operations, services and data management. Maintenance of up-to-date inventory of the hardware and systems and the personnel to whom these have been issued, software and information assets (internal and external), details of its network resources, connections to its network and data flows. Accordingly identify cyber risks, along with the likelihood of such threats and impact on the business and thereby, deploy controls commensurate to the criticality.

**Protection**

**Access controls:**

* Any access to systems, applications, networks, databases, etc., should be for a defined purpose and for a defined period. To identify the access we have granted access to IT systems, applications, databases and networks on a need-to-use basis and based on the principle of least privilege. Implement an access policy which addresses strong password controls for users’ access to systems, applications, networks and databases.
* Employees and outsourced staff such as employees of vendors or service providers, who may be given authorized access to the critical systems, networks and other computer resources, should be subject to stringent Supervision, monitoring and access restrictions.

**Physical Security:**

* Physical access to the critical systems should be restricted to minimum and only to authorized officials. Physical access of outsourced staff/visitors should be properly supervised by ensuring at the minimum that outsourced staff/visitors are accompanied at all times by authorized employees. Access should be revoked immediately if the same is no longer required.
* Office premises should be physically secured and monitored by security guards.

**Network Security Management:**

* As a Stock Brokers / Depository Participants we have established baseline standards to facilitate Consistent application of security configurations to operating systems, databases, Network devices and enterprise mobile devices within their IT environment. The LAN and wireless networks should be secured within the premises.
* Adequate controls must be deployed to address virus / malware / ransom ware attacks.

**Data security:**

* Strong encryption methods to be used for identifying and encrypting the critical data. The confidentiality of information is not compromised during the process of exchanging and transferring information with external parties. The information security policy should also cover use of devices such as mobile phones, faxes, photocopiers, scanners, etc.

**Hardening of Hardware and Software:**

* Should deploy hardened hardware / software, including replacing default passwords with strong passwords and disabling or removing services identified as unnecessary for the functioning of the system. Open ports on networks and systems which are not in use should be blocked.

**Application Security in Customer Facing Applications:**

* Application security for Customer facing applications offered over the Internet such as IBTs, portals containing sensitive or private information and Back office applications are paramount as they carry significant attack surfaces by virtue of being available publicly over the Internet for mass use. Measures to be taken for applications.

**Patch management:**

* Patch management procedures should include the identification, categorization and prioritization of patches and updates. An implementation timeframe for each category of patches should be established to apply them in a timely manner. Testing to be performed on security patches and updates, where possible, before deployment into the production environment so as to ensure that the application of patches do not impact other systems.

**Disposal of data, systems and storage devices:**

* Identify a Policy for disposal of storage media and systems. The critical data / Information on such devices and systems should be removed by using methods such as crypto shredding / degauss / Physical destruction as applicable.

**Vulnerability Assessment and Penetration Testing (VAPT):**

* Regularly conduct vulnerability assessment to detect security vulnerabilities in their IT environments exposed to the internet.
* Systems which are publicly available over the internet should also carry out penetration tests, at-least once a year, in order to conduct an in-depth evaluation of the security posture of the system through simulations of actual attacks on its systems and networks that are exposed to the internet. Additionally perform vulnerability scanning and conduct penetration testing prior to the commissioning of a new system that is accessible over the internet.

**Monitoring and Detection:**

* Establish appropriate security monitoring systems and processes to facilitate continuous monitoring of security events/ alerts and timely detection of unauthorised or malicious activities, unauthorised changes, unauthorised access and unauthorised copying or transmission of data / information held in contractual or fiduciary capacity, by internal and external parties. The security logs of systems, applications and network devices exposed to the internet should also be monitored for anomalies.
* Ensure high resilience, high availability and timely detection of attacks on systems and networks exposed to the internet, implement suitable mechanisms to monitor capacity utilization of its critical systems and networks that are exposed to the internet, for example, controls such as firewalls to monitor bandwidth usage.

**Response and Recovery:**

* Alerts generated from monitoring and detection systems should be suitably investigated in order to determine activities that are to be performed to prevent expansion of such incident of Cyber-attack or breach, mitigate its effect and eradicate the incident.
* The response and should have plans for the timely restoration of systems affected by incidents of cyber-attacks or breaches, for instance, offering alternate services or systems to Customers. Stock Brokers / Depository Participants should have the same Recovery Time Objective (RTO) and Recovery Point Objective (RPO) as specified by SEBI for Market Infrastructure Institutions vide SEBI circular CIR/MRD/DMS/17/20 dated June 22, 2012 as amended from time to time.

**Sharing of Information:**

* Quarterly reports containing information on cyber-attacks and threats measures taken to mitigate vulnerabilities, threats and attacks including information on bugs / vulnerabilities / threats that may be useful for other Stock Brokers / Depository Participants.

**Training and Education**

* Entities should conduct periodic training programs to enhance knowledge of IT / Cyber Security Policy and standards among the employees incorporating up-to-date Cyber Security threat alerts. Where possible, this should be extended to outsourced staff, vendors etc.
* The training programs should be reviewed and updated to ensure that the contents of the program remain current and relevant.

**Systems managed by vendors, MIIs**

* As a Stock Brokers / Depository Participants we have instructed the vendors to adhere to the applicable guidelines in the Cyber Security and Cyber Resilience policy and obtain the necessary self-certifications from them to ensure compliance with the policy guidelines.

**Periodic Audit**

* The periodicity of audit for the purpose of compliance with Cyber Security and Cyber Resilience provisions for depository participants shall be annual.
* The periodicity of audit for the compliance with the provisions of Cyber Security and Cyber Resilience provisions for stock brokers, irrespective of number of terminals and location presence, shall be as under: (Type of stock broker as specified in SEBI circular CIR/MRD/DMS/34/2013 dated November 06, 2013)
* For Type I - Annual
* For Type II - Annual
* For Type III - Half-year.

**Principles prescribed by National Critical Information Infrastructure Protection Centre (NCIIPC) of National Technical Research Organization (NTRO), Government of India:**

* Protection of Critical Information Infrastructure (CII) is of paramount concern to governments worldwide. To address this threat, the Government of India has notified the ‘National Critical Information Infrastructure Protection Centre’ (NCIIPC) as the nodal agencies vide Gazette of India notification on 16th January 2014.
* NCIIPC is driven by its mission to take all necessary measures to facilitate protection of Critical Information Infrastructure, from unauthorized access, modification, use, disclosure, disruption, incapacitation or destruction, through coherent coordination, synergy and raising information security awareness among all stakeholders with a vision to facilitate safe, secure and resilient Information Infrastructure for Critical Sectors in the country. To achieve this, it is essential to ensure that relevant security mechanisms are built into Critical Information Infrastructure as key design features.
* The National Security Advisor had in July 2013 released a document listing forty controls and corresponding guiding principles for the protection of CIIs. In view of the dynamic nature of cyberspace and to ensure the continued relevance of these controls, NCIIPC is continuously reassessing these based on ongoing experience as well as feedback from NCII constituents, these controls have been grouped into five sets (or families). While all Controls in a family may not be relevant to a particular organization / infrastructure, it is important that conscious sign off (on both, controls implemented, as well as dropped) is taken from senior management based on residual risk acceptable to the Organization.
* **The five families of controls are:**
* Planning Controls for ensuring that the security is taken as a key design parameter for all new CIIs at conceptualization and design level itself.
* Implementation Controls for translating the design/conceptualization planning into mechanisms for protecting the CII. These controls also come into play in case of retrofitting existing, unprotected/poorly protected CII.
* Operational Controls for ensuring that the desired security posture is maintained in the operational environment. These controls also come into play in case of retrofitting existing, unprotected / poorly protected CII.
* Disaster Recovery/ Business Continuity Planning (BCP) Controls for ensuring minimum downtime and the restoration process.
* Reporting and Accountability Controls for ensuring adequate accountability and oversight exercised by Senior management, as well as reporting to concerned Government agencies where required enforced through compliance controls.
* In circumstances where a particular control may not provide the best fit, we as an organization needs to consider compensatory controls which could also be procedural, so as to ensure that the attack surface presented by the organization’s Information Infrastructure is minimized.

**Change in the Policy will be adopted as and when required by the company and is binding on all the Staff/Employees/and Proprietor of the Firm.**

**For M/s H K Singhania & Co**

Harish Kumar Singhania

Designated Officer