

Government of West Bengal
Office of the Director of Land Records & Surveys
& Jt. Land Reforms Commissioner, West Bengal
35, Gopal Nagar Road, Alipore,
Kolkata - 700027

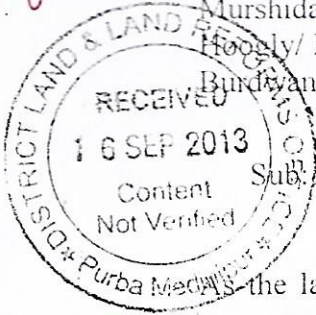
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Dated: Tuesday, September 03, 2013

Memo: Com./55(III)/ 160 /2012

To
The District Land and Land Reforms Officer,
Darjeeling/ Coachbehar/ Uttar Dinajpur/ Dakshin Dinajpur/ Malda/
Murshidabad/ Nadia/ North 24-Parganas/ South 24-Parganas/
Hooghly/ Howrah/ Purba Medinipur/ Paschim Medinipur/
Burdwan/ Birbhum/ Bankura/ Purulia

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Sub: Standard Operating Procedure on managing Information Security breaches

79/14
As the land records are progressively digitized and process is getting computerized, many incidents are being reported pertaining to breach of information security. Often inept handling such incidents is raising further complicity legally and administratively. Now, a SoP detailing the procedure of initiation of administrative and/or legal actions against breach of information security of land records so prepared and duly examined by NIC, WB Unit, is enclosed herewith for circulation upto block level and strict adherence.

Encl: As stated

Shome
(T.K.Shome)

OSD & ex-officio Director of Land
Records & Surveys
& Jt. Land Reforms Commissioner,
West Bengal

Memo: Com./55(III)/ 160 /2012

Dated: Tuesday, September 03, 2013


Copy forwarded in favour information and necessary action to:

1. The Secretary to Govt. of West Bengal, Department of Information Technology and Electronics, 4, Camiac Street Kolkata- 700 016 (Fax: 033-2282-1944)
2. Sri P.K.Pramanik, Sr. Technical Director, National Informatics Centre, West Bengal Unit, Bidyut Bhavan (Gr.Fl.), D.J. Block, Sector-II, Salt Lake, Kolkata-91 (Fax 033-23591929)

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OSD & ex-officio Director of Land
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P. T. O.

	Government of West Bengal Office of the Director of Land Records and Surveys & Jt. Land Reforms Commissioner, West Bengal 35, Gopal Nagar Road, Alipore, Kolkata – 700027		Controlled Copy Copy no. 1
Document no./ Title	Standard Operating Procedure on managing Information Security breaches		
Section Title	Procedure for managing information security breaches of computerised land records under BHUCHITRA : Computer Section, Directorate of Land Records & Surveys, West Bengal		
Section No.	Revision Date	Page	Issue Date
		7	03.09.2013

- 1.0. **Purpose:** Initiation of administrative and/or legal actions against breach of information security of land records under BHUCHITRA for ensuring confidentiality, integrity and availability of digital land records.
- 2.0. **Scope:** As land records are being updated and work process is now primarily based on computerised land records. Under section 50(2) of West Bengal Land Reforms Act, 1955, computerised land records are legally sanctified. Present BHUCHITRA follows the principle of CIA triad (i.e. Confidentiality, Integrity and Availability) of information security in maintaining computerised land records¹. Any breach of information security on the part of public servant not only attracts penalty under section 166 (i.e. disobeying law), 167 (framing incorrect document), 192 (fabricating false evidence), 204 (Destruction of documents to prevent its production as evidence), 218 (framing incorrect record), 219 (corruptly making report), 466 (forgery of record of public register) of Indian Penal Code but also under section 43 (damage to computer, computer system etc), 45 (Residuary Penalty), 65 (tampering with computer source document) of Information Technology Act, 2000. Beside these, Departmental Proceeding under West Bengal Services (Classification, Control and Appeal) Rules, 1971 may be initiated concurrently. As land records are being increasingly virtualised, incidents of information security are also being reported. However, handling such incident requires persistency, prudence and precision. This SoP for managing information security breaches delineates the procedure for preventing, curbing and controlling information security breaches in computerised land record database under BHUCHITRA. As present BHUCHITRA operates as stand alone mode, its' physical isolation from cyberspace ensures confidentiality of records to a

great extent unless any unauthorised physical media is attached for data theft. However, this SoP aims towards progressive achievement of ISO 27001 certification or Information Security Management System (ISMS) as regards to computerization of land records under the guideline of Information Security Policy released by CERT-In².

3.0. Responsibilities:

- (i) In service location, overall responsibility of information security lies with the BL & LRO as he is not only the custodian of all computer hardware and system peripherals but also he 'super user' having access to 'User Management Module'. It is mentioned earlier that information security of BHUCHITRA operates based on principle of CIA triad. Confidentiality is ensured by allowing access to database of computerised land records to authorised users only. Authorised users access database once password and finger print are validated. Further, since BHUCHITRA users are role based unless 'super user' is authorizing a user S/he cannot access a particular module i.e. mutation module, conversion module, record correction module etc.. All these ensure confidentiality part of information security embedded in BHUCHITRA. Any breach of above is construed as breach of information security.
- (ii) The user, who possesses the user id. and password is responsible for registering his fingerprint and access the database by these two factors authentication. All user is responsible for keeping his password for accessing database in safe custody. Any disclosure of password and thereby abetting another to unauthorised access to database may not only attract penalty under section 45 of Information Technology Act, 2000 but also all access as made by unauthorised person deemed to have been done by the user unless contrary is proved. BUCHITRA has the provision to record audit trails so that data cannot be modified in an unauthorized or undetected manner. All changes in computerised land records are easily detectable and users responsible for causing such change are identifiable. This ensures integrity of computerised land record.
- (iii) The access control system (i.e. two factor authentication), role based user management, integrity of data base (i.e. audit trails of all changes), computer processed physical output (i.e. printing on pre-printed stationeries along with signature) ensures the authenticity of transaction at present level. All these ensures the principle of Non-repudiation, which implies that one party of a transaction cannot deny having received a

transaction nor can the other party deny having sent a transaction. The users are expected to adhere all these process into work process as diligently as possible.

4.0. **Abbreviations:**

BL & LRO: Block Land and Land Reforms Officer;
CERT-In: Indian Computer Emergency Team
DL & LRO: District Land & Land Reforms Officer;
DLR&S: Director of Land Records &

Surveys;
RoR: Records of Right;
SD & LRO: Sub-Division Land & Land Reforms Officer;
SRO: Special Revenue Officer;
V5R5: Version 5, Release 5;

5.0. **Reference:**

- a. Memo. No.5/comp/123(18)/12 dated, Alipore, the 11th July, 2013 of the OSD & Ex-Officio DLR&S, WB.
- b. Section 50(2) of West Bengal Land Reforms Act, 1955
- c. Section 29, 166, 167, 192, 204, 218, 219, 464, 466, 477A of Indian Penal Code, 1860 and amendments thereof
- d. Section 3(2), 22A, 35, 65A and 65B of Indian Evidence Act, 1872 and amendments thereof
- e. Section 43, 65, 72 of Information Technology Act, 2000
- f. Rule 22 and APPENDIX 2 of the West Bengal Financial Rules, 1979
- g. Rule 10 of Departmental proceeding for West Bengal Services (Classification, Control and Appeal) Rules, 1971
- h. Chapter -V (Section A)-'Information Security requirements and Authentication Mechanism' of NLRMP Technical Manual, Pp.135-141
- i. Chapter -V (Section B)-'Data Security' of NLRMP Technical Manual, Pp.142-144.
- j. Information Security Policy for Protection of Critical Information Infrastructure (Doc. No. CERT-In/NISAP/01, Issue 01, May 2006) of Indian Computer Emergency Response Team (CERT-In), DoIT, GoI, New Delhi

6.0. **Procedure:**

- (i) Since information security is a journey not a destination therefore prevention is stepping stone of information security. The BL&LRO being the super user shall audit the user management module regularly to detect any irregularity i.e. creation of spurious user, creation of multiple user accounts of single user; role assignments etc. and immediately rectify such irregularity.

- (ii) The access control system of BHUCHITRA operates on principle of two factors authentication i.e. password and finger identification. Therefore, the BL&LRO shall (a) ensure installation of BHUCHITRA v.5r.5; (b) ensure installation of finger print scanner against each clients and server and (c) ensure all user registers for accessing BHUCHITRA applications.
- (iii) In case of any prima facie detection of any breach of information security by any user, the BL&LRO as super user shall immediately detect the suspected user responsible such violation. Thereafter, the BL&LRO shall take the backup of the BHUCHITRA Database from the 'administrative menu' of BHUCHITRA. Such backup has to be copied in 4(four) separate CD-R/DVD-R (in single-session mode) subscribing signature of the BL&LRO with date & time and mentioning the name of the concerned Block and District clearly with non-erasable marker pen. Thereafter shall withdraw all the computerized record correction roles of the suspected user through the User Management Module of BHUCHITRA. The user-ID of said user shall not be deleted and the record correction power of the said user shall not be restored without the written direction with specific instruction from the concerned DL&LRO.
- (iv) Immediately after withdrawal of the record correction power of suspected user, the BL&LRO shall prepare a report detailing information security violations [i.e. the unauthorized modification/deletion of land records by suspected user(s) specifying land schedule, case nos. as found in computer against the said unauthorized modifications/deletion, whether the such case nos. mentioned in computer database exists in the concerned registers lying at the block, whether any proceeding was initiated against those modifications., etc.].
- (v) The detailed report along with along with 3(three) copies of the CD-R/DVD-R containing the backup of database in sealed cover is to be sent to the concerned DL&LRO. Since the response to the breach of information security is very urgent in nature, the BL&LRO shall ensure transmitting a copy of such detailed report to the computer section of the Directorate of Land Record & Surveys, West Bengal immediately by fastest mode of communication (i.e. fax, internet, speed post etc.) and a copy of such report to the SDL&LRO. The forth copy of the CD-R/DVD-R will be preserved by the BL&LRO, for further course of action.

- (vi) The DL&LRO on receiving the reports and copied of back-up in CD-R/DVD-R shall cause inquiry and issue show cause to suspected user(s) and obtain reply of suspected user(s) and with specific comments shall send the reports and two copies of the backup to the DLR&S, West Bengal in sealed cover. The DL&LRO may cause the SD&LRO to cause inquiry as he may deem fit to adduce evidences. One copy of the Backup will be preserved at his end for further course of action, if necessary. The DL&LRO may cause an enquiry from his end, if necessary, and in that case, that enquiry report should also be sent along with the other reports.
- (vii) If the BL&LRO is suspected to be responsible for breach of information security, the DL&LRO may cause enquiry and may even obtain assistance of the SDL&LRO or other officer under his jurisdiction to complete the enquiry, obtaining backup and deactivating role of concerned BL&LRO and obtaining power of super user by changing password and registering finger print of new user unless otherwise directed by the DLR&S, West Bengal. Reporting of such incident shall be done to the computer section of the Directorate of Land Record & Surveys, West Bengal immediately by fastest mode of communication (i.e. fax, internet, speed post etc.).
- (viii) On receiving the reports and the backup sets, the DLR&S, West Bengal, shall cause to check the reports and the database, and forward one of the backup in CD/DVD to National Informatics Centre, West Bengal State Centre in sealed cover for their examination, opinion and findings under section 45 of Indian Evidence Act, 1872.
- (ix) On receiving the opinion and findings along with the backup in CD/DVD from the National Informatics Centre, WBSC, the Director of Land Records & Surveys, West Bengal may direct (a) initiation of Departmental Proceeding under West Bengal services (Classification, Control and appeal) Rules, 1971 and/or (b) initiation of legal steps or (c) to pass any order as may be deemed fit.
- (x) In case of legal proceeding, upon direction of the DL&LRO and on receipt of original report of NIC, WB Unit and sealed back-up in CD/DVD, the concerned BL&LRO or SDL&LRO, as the case may be, shall lodge FIR to local police station. The original report of NIC, WB along with sealed back-up in CD/DVD which is an admissible electronic record under 65A and 65B of Indian Evidence Act, 1872 shall be kept ready for seizure³. It is to be remembered if case is initiated under Information

Technology Act, 2000, section 78 states notwithstanding anything contained in the Code of Criminal Procedure, 1973, a police officer not below the rank of Deputy Superintendent of Police shall investigate any offence under this Act. If case is initiated under Indian Penal Code, matter will be guided by Cr.PC as usual.

(xi) If FIR is required to be lodged, it is advisable that such information report shall be precise and shall contain the ingredients of the sections only (without mentioning sections) as mentioned in para. 2.0. A copy of FIR shall be sent to the computer section of the Directorate of Land Record & Surveys, West Bengal for record.

(xii) If sanction is required under section 197, Criminal Procedure Code by the circumstances of the case, it should be applied for after police investigation has been completed but before the investigating officer has taken action under section 170, Criminal Procedure Code. The application should be made by the senior officer of the department stationed in the district.


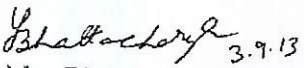
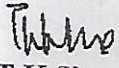

(xiii) In lieu of legal action, the Director of Land Records & Surveys, West Bengal may recommend Departmental proceeding for RO/SRO-II/SRO-I to the Land Reforms Commissioner, West Bengal or may initiate Departmental proceeding for other staffs for violation of information security. Or may take any other administrative measure as he may deem fit.

ENDNOTES:

1. The CIA triad consists of three objectives: confidentiality, integrity and availability. Confidentiality is assurance of data privacy. Only the intended and authorized recipients may read the data. Disclosure to unauthorized entities, for example using unauthorized network sniffing is a confidentiality violation. Integrity is assurance of data non-alteration. Data integrity is having assurance that the information has not been altered in transmission, from origin to reception. Availability is assurance in the timely and reliable access to data services for authorized users. It ensures that information or resources are available when required. BHUCHITRA adheres all the three principles of information security.
2. ISO 27001 or Information Security Management System (ISMS): Technical Manual of NLRMP recommends for ISO 27001 certification for computerized land records system. The certification process can be set into motion as soon as even one component of land records system, such as test-database, has been put into production use. C-TAG in Chapter-5(sec. A) of Technical Manual of NLRMP proposed steps for data security and this SoP also adheres the same.
3. Admissibility of Electronic Record (Section 65B of Indian Evidence Act, 1872): Section 65B(1) states '....any

information contained in an electronic record which is printed on a paper, stored, recorded or copied in optical or magnetic media produced by a computer (hereinafter referred to as the computer output) shall be deemed to be also a document, if the conditions mentioned in this section are satisfied in relation to the information and computer in question and shall be admissible in any proceedings, without further proof or production of the original, as evidence of any contents of the original or of any fact stated therein of which direct evidence would be admissible'. However, the admissibility of such computer output subjected to following terms and condition, namely:-

- (a) the computer output containing the information was produced by the computer during the period over which the computer was used regularly to store or process information for the purposes of any activities regularly carried on over that period by the person having lawful control over the use of the computer;
- (b) during the said period, information of the kind contained in the electronic record or of the kind from which the information so contained is derived was regularly fed into the computer in the ordinary course of the said activities;
- (c) throughout the material part of the said period, the computer was operating properly or, if not, then in respect of any period in which it was not operating properly or was out of operation during that part of the period, was not such as to affect the electronic record or the accuracy of its contents; and
- (d) the information contained in the electronic record reproduces or is derived from such information fed into the computer in the ordinary course of the said activities.

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