
Rules for the Bhutan Electronic Clearing House (Subsidiary of the Royal Monetary Authority)

Introduction

The following are rules for the Bhutan Electronic Clearing House (BECH) that will be applied at each Regional Clearing House (RCH) as well as the Clearing and Settlement House (CASH). The Rules have been developed with the plan for paper cheques being truncated and filed at the RCH receiving a deposit of cheques for clearing from a Collecting Bank Office and followed by a flow of images from the RCH through the CASH to the Paying Bank Office. Similarly, images would be returned should there be a valid reason for non-payment and one possible second collection effort made for those images (cheques) that were returned for insufficient funds, cheque and the amount charged differs or for an incorrect Paying Bank number coded by a Collecting Bank Office. The rules will be reviewed by the BECH organization at least annually, and amendments will be proposed to improve efficiency of operations or for new service offerings as appropriate.

Objectives

The objectives of BECH are to promote the improvement of clearing and settling cheques, to make use of currently available technology, to improve efficiency of operations, to reduce paper flowing between banks, to make greater use of electronic capabilities, to deter and prevent fraud, and to provide appropriate reports to Royal Monetary Authority (RMA), banks and others involved with interbank payments.

Hours of Operations

Each RCH and CASH will operate on all business days and will be closed on Saturdays, Sundays and national holidays. For local holidays, RCH's will operate on a limited basis by receiving images for presentment to the Paying Bank Office that is closed for customer transactions and open for returning images not eligible for payment. CASH will operate on all local holidays and settlement information will be posted on accounts maintained by eligible institutions at RMA (Royal Monetary Authority). A schedule of operating hours on a daily basis is shown in Appendix 1. These hours will be reviewed by BECH on an annual basis and may be changed as described elsewhere in these Rules.

Comment [h1]: All paying banks are required to stay open for few hours to verify their inward checks during the local holidays and also on week days (for those branches remaining off on week days).

BECH Rules

These Rules outline the general responsibilities of the Collecting Bank Office, the RCH, the CASH, the RMA for settlement, and the Paying Bank Office making payment for valid images on behalf of their account holders and the return of unpaid images.

A. Document Preparation by Collecting Bank Office

1. The Collecting Bank office will sort the documents into two groups; standard or those with Magnetic Ink Character Recognition (MICR) digits pre-coded on the documents (bank identification number, cheque number and bank account number) and those that do not meet the adopted standards. Each group will be prepared separately before forwarding to the RCH as noted below.
2. New Standard Cheques with MICR encoding. (See sample shown in Figure 1 with specifications for document size and location of numbers.)

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- a. Each cheque will be placed face up in normal reading position with the MICR encoded numbers on the lower edge.
 - b. All paper clips, staples and other foreign materials are to be removed from the documents.
 - c. The Collecting Bank Office will validate that each cheque:
 - i. Has a paying bank identification number, cheque number and a bank customer account number encoded in MICR characters in the proper location on the cheque.
 - a. When either number is missing, then the cheque will be considered a non-standard document and should follow the rules for clearing as discussed in A 3 below.
 - ii. There are no cheques postdated or stale dated (over six [6] months) or 180 days,
 - iii. There is a signature on each cheque,
 - iv. There is an amount present,
 - v. The amount is of the same value both in words and figures, and
 - vi. Non-qualifying cheques will be returned to the depositor as ineligible for clearing through BECH.
 - d. The Collecting Bank Office will validate that there is a proper endorsement on each cheque. When the endorsement is missing, it must be obtained prior to entering the cheque into the clearing system. Missing endorsements may cause a financial penalty to be assessed to the Collecting Bank Office.
 - e. For cheques payable at the Collecting Bank Office ("on us" cheques), the Collecting Bank Office will assure that the cheque meets all the criteria for clearing and settlement and that **"on us" cheques will not be eligible to be returned for any reason.** (Inter branch cheques drawn on the same bank are not considered "on us" cheques for purposes of these Rules.)
 - f. All cheques shall have the guarantee affixed to the cheque showing "Accepted for Clearing", and "All prior endorsements and/or lack of endorsement guaranteed" along with the Collecting Bank Office number and date as well as the signature of the bank's verifying staff. The RCH is not responsible for any defects in the guarantee.
 - g. The cheques will be bundled in packets of no more than thirty (30) items. This packet of thirty (30) or fewer items is known as a **batch**.
 - h. A listing will be prepared by the Collecting Bank Office (preferably by adding machine) showing the amount of each cheque and the total of all cheques in the batch. This listing will be included with the batch when forwarding to the RCH.
 - i. A batch may contain both "on-us" and interbank cheques.
 - j. A Batch Header Document will be prepared showing: (See sample document shown in Figure 2)
 - i. The bank identification number of the Collecting Bank Office,
 - ii. The total number of cheques in the batch, and
 - iii. The total value of all cheques in the batch.
 - k. The Batch Header Document will precede the cheques in the bundle and will identify the cheques in the batch as standard documents. The Batch Header document is to be prepared even if only one cheque is being presented for collection.
3. Non-standard cheques (partial or no MICR encoding)
 - a. Each cheque will be placed right side up in normal reading position with the amount on the right side of the document.
 - b. All paper clips, staples and other foreign materials are to be removed from the documents.

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- c. Each document will have the **Paying Bank Office identification number** written legibly under the customer's bank's account number **by the collecting bank office**. The bank identification (code) numbers are shown in Appendix 2.
 - d. The Collecting Bank Office will validate that there is a proper endorsement on each cheque. When the endorsement is missing, it must be obtained prior to entering the cheque into the clearing system. Missing endorsements may cause a financial penalty to be assessed to the Collecting Bank Office.
 - e. The Collecting Bank Office will validate that:
 - i. There are no cheques postdated or stale dated (over six [6] months) or 180 days,
 - ii. There is a signature on each cheque,
 - iii. There is an amount present,
 - iv. The amount is of the same value both in words and figures, and,
 - v. Non-qualifying cheques will be returned to the depositor as ineligible for clearing
 - f. For cheques payable at the Collecting Bank Office ("on us" cheques), the Collecting Bank Office will assure that the cheque meets all the criteria for clearing and settlement and that **"on us" cheques will not be eligible to be returned for any reason**. (Inter branch cheques drawn on the same bank are not considered "on us" cheques for purposes of these Rules.)
 - g. All cheques shall have the guarantee affixed to the cheque showing "Accepted for Clearing", and "All prior endorsements and/or lack of endorsement guaranteed" along with the Collecting Bank Office number and date as well as the signature of the bank's verifying staff. The RCH is not responsible for any defects in the guarantee
 - h. The cheques will be bundled in packets of no more than thirty (30) items. This packet of thirty (30) or fewer items is known as a **batch**.
 - i. A listing will be prepared (preferably by adding machine) showing the amount of each cheque and the total of all cheques in the batch. The listing will be included with the batch when forwarding to the RCH.
 - j. Batches may contain both "on-us" and interbank cheques
 - k. A Batch Header Document will be prepared showing: (See sample document shown in Figure 2)
 - i. The bank identification number of the Collecting Bank Office,
 - ii. The total number of cheques in the batch, and
 - iii. The total value of all cheques in the batch.
 - l. The Batch Header Document will precede the cheques in the bundle and will identify the cheques in the batch as non-standard documents. The Batch Header document is to be prepared even if only one cheque is being presented for collection.

EXCEPTION: When there are ten (10) or fewer cheques (both standard and non-standard) for clearing from any one Collecting Bank Office, only one batch needs to be prepared. In this case the **Batch Header Document** will contain the information described in (k) above and will be marked to note these cheques are **mixed documents**.
4. Delivery Preparation by the Collecting Bank Office.
- a. A Delivery Statement will be prepared showing the Collecting Bank Office identification number (See Appendix 2), the total number of batches and the total amount of the cheques in the Delivery Statement. (See sample Delivery Statement document shown in Figure 3.)
 - b. Multiple batches including both types of cheques (standard and non-standard) may be consolidated within one Delivery Statement. In case of the non-standard cheques there should not be more than 3 batches in a Delivery Statement. If there are more than three

batches of non-standard cheques, then the batches should be equally divided between the Delivery Statements.

- c. The Delivery Statement will indicate the total number of batches and the total value of all cheques. It will represent the credit value the Collecting Bank Office is expecting from the clearing.
 - d. A Delivery Statement will be prepared even when only one batch (and /or one cheque) is being presented for clearing.
 - e. The Collecting Bank Office shall retain a photocopy of each cheque and a copy of the Delivery Statement for the period shown in the Retention Schedule, Appendix 3.
 - f. The Collecting Bank Office may use the photocopy of the cheque as a means to collect funds when it has been advised that a Delivery Statement of cheques was lost in transit or that cheques were lost.
 - i. In making use of this feature to collect funds, the Collecting Bank Office will certify the reason for using the photocopy, authenticate the photocopy and hold the Paying Bank Office harmless should the original cheque show up either before or after presentment of the photocopy.
 - ii. The Paying Bank Office needs to be aware that this cheque or photocopy image will not be paid two or more times.
 - iii. The photocopy image must be uniquely identified which will allow the RCH to record it during the scanning process.
5. Delivery Presentment to the RCH.
- a. The Collecting Bank Office will be responsible for having the cheques and control documents (Batch Header and Delivery Statement) delivered to the local RCH on a timely basis, either by messenger, courier, or Postal System.
 - b. The Collecting Bank Office is responsible to notify the RCH each day by e-mail (preferable), fax, or by telephone, whether there will be a delivery of items for clearance and truncation, or not. This is considered a positive notification for each business day the Collecting Bank Office is open for business.
 - i. When there is to be a delivery of cheques, the Collecting Bank Office will notify the RCH of the Delivery Statement information (total value and total number of cheques) and the method of delivery to allow the RCH to anticipate and validate the actual receipt of the delivery.
 - ii. When there are no cheques for clearing, there is a need to make that situation known to the RCH.
 - iii. An extended telecommunications, or fax equipment, outage at a bank office should be reported to CASH by the RCH so that extended presentment times in accordance with that shown in Appendix 2 may be taken into consideration. Deposits of cheques should continue even if the Collecting Bank Office has not notified the RCH of a submission.
 - c. The RCH will record the information (collecting bank office identification, the total value of cheques to be cleared, the total number of cheques and the expected arrival date) in a log book.
 - d. The Collecting Bank Office will record the amount shown on the Delivery Statement in its books according to the accounting policies of its organization and post the amounts at the proper time on its books of record.
 - e. The Collecting Bank Office will reconcile the amounts that it is collecting through the BECH on a daily basis to assure the correctness of the accounting entries. The Collecting Bank's Head Office will be notified of any differences or discrepancies on a daily basis.

Comment [h2]: Bank are required to call up to inform that they will be sending the checks for presentation.

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- f. Discrepancies not reported within seven (7) business days will no longer be considered a discrepancy, but will require an accounting adjustment to the over and short account on the books of the Collecting Bank Office.

B. Regional Clearing House (RCH) operations.

1. Receipt of Cheques for truncation.

- a. The RCH will receive cheques for truncation and clearing within the operating hours as shown in Appendix 1. After the stated close of business for receiving cheques, cheques will be processed as of the next business day and accounting entries will be made similarly.
 - i. If the RCH receives no cheques for truncation on a given business day, it will notify CASH by e-mail (preferable), fax or phone, that there will be no presentment of images for settlement.
- b. The RCH will validate each Delivery Statement received against the notification record received in advance from each Collecting Bank Office (by e-mail [preferable], fax or telephone) within its region as to the time of receipt, number of cheques and the total value of all the cheques. Discrepancies will be documented and reported to the Collecting Bank Office and to CASH.
- c. When an expected Delivery Statement has not arrived on time, RCH personnel will conduct an investigation as to the missing the Delivery Statement, record their findings in a computer file, and forward the file to CASH for information purposes.
- d. The RCH will record the time of day incoming cheques are received from collecting banks and the method of delivery in the notification log book.
- e. The RCH will prepare the documents for machine processing noting the condition of the documents, removing any foreign items (e.g. paper clips, staples, rubber bands, etc.). Significant exceptions will be reported back to the Collecting Bank Office to assure these conditions are not repeated in the future.

2. RCH processes

- a. The RCH will enter the control information into the image processing system from the Delivery Statement (Collecting Bank Office identification number, total number of batches, and total value of all cheques being forwarded with the Delivery Statement).
- b. The RCH will enter the Batch Header control information (number of cheques and the total value of the cheques in the batch) before processing the cheques in the batch.
- c. The RCH will convert all cheques into images, recording both sides of each cheque, batch by batch and verify that each cheque image is satisfactory.
 - i. Any image that is unsatisfactory will be ineligible for collection through this system and will be returned to the Collecting Bank Office with the reason for non acceptance after appropriate accounting adjustments. Statistical reports will be maintained by the RCH and reported to CASH on a monthly basis.
 - ii. For all acceptable images, the RCH will validate the amount to be collected and assure that the Paying Bank Office identification number is valid for each cheque in a batch.
 - iii. Photocopy images will be uniquely identified to avoid duplicate payment.
- d. The total amount of all cheques in a batch must equal the amount shown on the Batch Header Document, or appropriate adjustments will be necessary.
- e. Once all batches from a Delivery Statement have been processed and all cheques have been converted to images, the RCH will validate the control information from the Delivery Statement. Exceptions will be reported to the Collecting Bank through accounting adjustment entries and related advices. Large differences (over 5000 Nu.) will be notified electronically (e-mail or fax).

- f. The process will continue until all Delivery Statements have been processed and all cheques converted to images.
- g. The RCH will develop electronic files of images from truncated cheques presented by the Collecting Bank Offices.
- h. The electronic files are to be accurate for accounting and settlement purposes. After validation and correction, when necessary, the image files will be transmitted to the CASH by the specified hour as shown in Appendix 1.
- i. The RCH will store all original cheques in a secure location for the appropriate retention period. The documents will be stored by date processed, unique number assigned by the system and by Collecting Bank Office. (See Appendix 3.)
- j. The RCH will retrieve stored cheque documents on demand and provide such documents within 24 hours of receiving the request. When the document is removed from the RCH premises a receipt will be obtained from the person demanding the document. Release of a cheque shall be based upon a Bhutanese Court Order or a written instruction from an authorized officer of RMA. The authorization will be filed at the RCH along with the receipt and a photocopy of the cheque.

C. Clearing and Settlement House (CASH)

1. Receipt of incoming image files for clearing and settlement.

- a. An operator at CASH will monitor the receipt of files from the RCH's to assure that the files have been received on a timely basis. When all expected files have been received the CASH operator will manually begin the clearing and settlement operation. From this point all processes at the CASH will be automated and conducted without operator intervention. Exception reports will alert operators to conditions requiring intervention.
 - i. When an RCH has not forwarded a file within fifteen (15) minutes of the close off-hour as shown in Appendix 1, the operator will investigate before beginning the automated process and note the action taken in a log book.
- b. CASH will validate that it has received all images and the total value of the images for clearing and settlement from each RCH. CASH will also validate that each Paying Bank Office identification number (see Appendix 2) is valid.
- b. When controls are acceptable, CASH will sort the images by Paying Bank Office and develop totals for the images in each file by office.
- c. When the clearing process has been completed, CASH will electronically deliver the images to be paid to each RCH for delivery to the Paying Bank Office served by the RCH.
 - i. If there are no images for presentment to a RCH, then the computer system will automatically notify the RCH of this situation.
- d. Should the Clearing and Settlement be delayed by BECH management for more than 60 minutes, then CASH will notify the participants by a broadcast message through the computer system of the delay and the reason for the delay.

2. Settlement information.

- a. CASH will calculate the amounts that are to be collected from each Paying Bank Office from the images forwarded from the Collecting Bank Offices through the RCH's. CASH will calculate a settlement amount for each participating bank office. However, the settlement will take place on a net basis at the bank level including all branches of a given bank.
- b. CASH will deliver a Statement of Activity to each RCH for each Banking Office served by the RCH showing all the entries and the net settlement amount. The Statement of Activity will show entries valid on the current day and those entries that will be posted on a future date (delayed availability because of extended known equipment malfunctions).

Comment [h3]: Not implemented as yet. Whenever there is such requirement it is being done through phone or by manual fax. To be implemented in future.

- c. The CASH will deliver a hard copy of the net settlement report (currently two entries - one for Bank of Bhutan and one for Bhutan National Bank) to RMA for posting to bank accounts maintained at RMA.
- d. RMA will post the debits first to ensure that banks have sufficient funds in their account to cover their respective debit position.
 - i. In the event there are insufficient funds in the account for any participating bank with a net debit position, the RMA will follow internal procedures to ensure that funds are available by end of day to finalize the settlement before the books are closed.
- e. Accounting entries for presentment of images not made the same business day will be deferred until the presentment is made. Presentment is considered to be made when an electronic image has been received at the Paying Bank Office. It is expected that presentment will be made the same day to all Paying Bank Offices, except where there is an extended telecommunications, or fax equipment, outage which has been reported to the RCH and CASH in advance to make settlement on a deferred basis.
- f. Deferred presentment will be taken into consideration when calculating net settlement positions and bank branch offices will be advised appropriately.

D. Regional Clearing House (Delivery of Images to the Paying Bank Office)

- 1. Receipt of image files from CASH for presentment to Paying Bank Offices.
 - a. Image files will be received at the RCH within two hours of the close off-hour for transmitting electronic files to the CASH as shown in Appendix 1.
 - b. Delivery of images to the Paying Bank Offices will be made within thirty (30) minutes of receipt from the CASH.
 - i. The RCH will notify each Paying Bank Office in its region that the clearing and settlement has been completed, even if there are no images being presented for payment.
 - c. Delivery may be made by electronic connection to a computer, by e-mail, or by fax (stand alone device or through a fax modem). (No deliveries will be made in hard copy except in an emergency.)
 - d. The receipt of files will include the amount the Paying Bank Office is being charged for the images, the date the amount will be posted and the number of images in the file.
 - e. The RCH will deliver the net settlement amount and the related Statement of Activity to each participating bank office electronically, or by fax, within one hour after images have been received from CASH. Delivery of statements signifies that Settlement for same day transactions is complete and final for the current day.

Comment [h4]: Not possible at the moment owing to the network speed and inconveniences with the fax interfacing. It is normally done on the next morning only. To be implement in future.

Comment [h5]: At the moment, it is done only on the next morning. To be implemented in future.

E. Paying Bank Office processes.

- 1. Receipt of incoming image files for payment
 - a. Paying Bank Offices are to validate the images as if they were cheques and determine when they are suitable for payment. **“On us” cheques images should already have been validated and are ineligible to be returned.** (Inter branch cheques drawn on the same bank are not considered “on us” cheques.)
 - b. Images suitable for payment should be posted to their respective account immediately.
 - i. Photocopy images must be validated to assure that an image of the original cheque has not already been presented for payment. If the cheque has already been paid the photocopy image is to be returned with the appropriate reason for non payment (e.g. duplicate copy, showing the original identification number of the presented image).
 - c. The amount of the images being collected should be recorded as per the accounting policies of the bank and posted at the proper time on its books of record.

- d. Each participating bank office is to reconcile their settlement statement and notify their respective Head Office of any discrepancies on a daily basis.
 - e. Discrepancies not reported within seven (7) business days will no longer be considered a discrepancy, but will require an accounting adjustment to the over and short account on the books of the Paying Bank Office.
2. Non Payment of images (items) by the Paying Bank Office.
- a. Images not suitable for payment will be placed in a return file to be sent back to the RCH in the morning of the next business day based on the time shown in Appendix 1.
 - i. If there are no images presented, then there will be no returns for the day and the Paying Bank Office will notify the RCH as such.
 - b. The information of the unpaid item will be forwarded to the RCH by fax in the Return Clearing Form shown on (Appendix 6). Information being forwarded to the RCH will consist of the unique identification code (Sequence number) of the image, the amount, cheque number, account number, date processed, and reason for return. If more than one item is being returned, then there will be a listing on the fax showing the total value of all items being returned.
 - c. In returning an item, the returning (Paying) bank office must identify the particular reason for return. Valid reasons are listed in Appendix 5.
 - d. The returning bank office must prepare the proper controls and amounts for the return file.
 - e. The returning bank office will notify the RCH of the number of instruments being returned and their total amount, each day by the time shown in Appendix 1.
 - i. The returning Bank office should notify the RCH even if there are no returns to be processed on a daily basis by phone or fax at the same specified time.
 - e.f. In the event of items being returned that are Nu. 5000 or greater, the Paying Bank Office will directly notify the Collecting Bank Office of the item not being paid by e-mail, fax or phone (preferable). This action will allow the Collecting Bank Office to place a hold on the depositor's funds expected from that deposited cheque forwarded for collection as an image.
- F. Return processing at the RCH representing the Paying Bank Office.
1. Returns will be received by fax at the RCH before the close off time as shown in Appendix 1.
 - i. The RCH will notify CASH by e-mail (preferable), fax or phone, if there are no returns to be submitted by the RCH for a given business day.
 2. The RCH will validate the receipt of Returns with the notification log book, noting the time and method of receipt and any differences in amounts or number of images.
 3. Returns being received by fax will be retrieved from the electronic paying bank file and marked as being returned for the first time. (e.g. First Return)
 4. The RCH will identify the collecting bank number from the image file maintained at the RCH and create a Return file based on the MICR and accounting data.
 5. The RCH will determine if the image has been returned once before.
 - a. When the image has not been returned once before, the RCH will mark the image as being returned for the first time.
 - b. On a subsequent occurrence of the image being returned, the RCH will note that the image being returned is no longer eligible for collection through BECH. The RCH that truncated the cheque will retrieve the cheque from the files, return the original cheque to the Collecting Bank Office and mark the cheque as ineligible for collection through BECH.

Comment [h6]: Banks must call up to confirm acceptance even if there are no returns.

6. The RCH will create a Return file and determine the number of items and the total value of the items being returned. Procedures at the RCH will verify the accuracy of the return file.
7. The RCH will transmit the file to the CASH for processing before the time shown in Appendix 1.
8. The Return file will be processed separately from forward collection images.
9. The accounting entries will be shown separately for each banking office to facilitate reconciliation processes.
10. The RCH will notify CASH on a daily basis whether there will be a return file for processing or not. CASH will record the receipt of this notification.

G. Return Clearing and Settlement at the CASH

1. Clearing of return files

- a. The Return files will be received within the time frame as shown in Appendix 1. After the CASH operator has determined all return files have been received from each RCH, the return processing will commence from a manual action. All subsequent processes will be automated and only exceptions will require operator intervention.
 - i. When an RCH has not forwarded a file within fifteen (15) minutes of the close off-hour as shown in Appendix 1, the operator will investigate before beginning the automated process and note the action taken in a log book.
- b. The Return files will be validated with the control numbers to ensure all images were received, the total amount of all returned items is accurate, the Bank Identification numbers are valid, and nothing was changed during the transmission process.
- c. The Return files will be sorted into Collecting Bank Office order.
- d. The Return files will be forwarded to the appropriate RCH where the original Collecting Bank Office is served within 15 minutes after the close off time.
 - i. If there are no return files for a RCH, the computer system will automatically inform the RCH of this situation.
- e. The Return files will have appropriate controls for validation purposes.
- f. Should the Clearing and Settlement be delayed by BECH management for more than 60 minutes, then CASH will notify all participants by a broadcast message through the computer system of the delay and the reason for the delay.

2. Settlement of Returned files

- a. Settlement figures for Return Items will be calculated on a net basis for each Banking Office participating in the exchange of non-payment of images.
- b. The net settlement figure for all branches of a bank will be forwarded to RMA for posting to accounts of the participating banks. (Initially, there will be two figures; one for BOB and one for BNB. As more banks are added, then the settlement will expand.)
- c. A Statement of Activity covering Returned Items will be sent to each participating bank.
- d. Presentation time will be taken into consideration when calculating the net settlement and the day it is to be posted.
- e. Settlement information will be forwarded to each RCH servicing a participating banking office.

H. Return processing at the RCH representing the original Collecting Bank Office.

1. The RCH will retrieve the image from its file and forward the Returned Images to the original Collecting Bank Office indicated on the image electronically, or by fax within 30 minutes after receipt from the CASH.

Comment [h7]: To be implemented in future. It will be informed by phone or fax for the time being.

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2. The RCH will forward the settlement information to the Collecting Bank Office in the same manner and time frame as the images were forwarded.
 - a. If there is a communications failure to the fax machine, the RCH will telephonically inform the Collecting Bank Office of the images that are being returned and the reason for return.
 - b. Each Collecting Bank Office served by the RCH will be automatically notified that the Return clearing and settlement has been completed, even if there are no returns for a given office.
 3. The RCH will retain a computer file of the Returned Images by each Collecting Bank Office.
 4. The RCH will retrieve the stored cheques that are no longer eligible for cheque clearing and settlement through BECH and return them to the original Collecting Bank Office along with a listing and related values. Images of the cheques declared as ineligible for clearing and settlement will be noted in the image data base file and removed after 30 days.
 5. The RCH will notify all other banking offices in its region that the Return Processing Cycle has been completed for that business day.
- I. Return processing at the original Collecting Bank Office
1. The Collecting Bank Office will review the return (unpaid) image and determine whether to forward the image a second time for collection, but only if it was returned for an incorrect Paying Bank Office number coded on a non standard cheque. The RCH will re-present a cheque being returned for insufficient funds.
 2. The Collecting Bank Office will make the appropriate accounting entries according to its accounting policies.
 3. When it is decided not to return the image, the banking office must reverse any funds from the depositor's account and follow its internal accounting policies for non-payment of transactions.
 - a. Images being returned because of insufficient funds or incorrect Paying Bank Office are the only images acceptable for a second clearing attempt.
 4. When a returned image is eligible to be presented a second time, the image will be forwarded to the RCH by fax noting the relevant information so that the RCH may retrieve the image from its files.
 - a. The Collecting Bank Office will notify the RCH of the presentment and the expected time of delivery.
 - b. Cheques ineligible for collection through BECH will be returned in a prompt manner (less than two days) to the depositor with the reason for the cheque being ineligible for collection through BECH.
- J. Forward Presentment a Second time at the RCH
1. The RCH will retrieve incoming images for second presentments by fax. The RCH will retrieve the electronic image from the stored computer file. The image will note that it has been forwarded for presentment once before and that this is the second time.
 2. After validation, the RCH will place the images in a separate clearing file to be transmitted for clearing and settlement.
 3. The RCH will note the amount for each bank making a second deposit as shown on the fax. However, the image will not be presented separately to the CASH or the Paying Bank Office.
- K. Settlement Statements for Bank Reconciliation
1. Postings to bank accounts at RMA will be on a net basis by bank.
 2. A Statement of Activity for each banking office will be provided to show the calculation of the net figure. Information shown will be:

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- a. Name of bank, bank identification number, date, and RCH service area.
 - b. Each forward presentment amount (credit as shown on the Delivery Statement).
 - c. Any adjusting entries (e.g., amount for over cheques, incorrect Delivery Statement amounts, missing cheques, etc.).
 - d. Amount to be collected (debit to the paying bank office).
 - e. Returned images from paying bank (credit).
 - f. Returned images to collecting bank (debit).
 - g. Any other adjusting entry.
 - h. Net position.

L. Fees

1. Fees will be assessed on a monthly basis according to the schedule shown in Appendix 4. The fees will be charged to each participants current account maintained at RMA on a monthly basis by the sixth (6th) business day following the end of the previous month. The fees may be changed from time to time by BECH and will be implemented sixty (60) days after adoption by BECH and notification to the participants in BECH using the cheque truncation and image processing services through a revised Appendix 4. Initially BECH will waive fees, but this subsidy may be changed in the future.

M. Amendments.

1. These rules may be modified by the BECH on and as needed basis. Any member of the BECH may propose a change in the rules. The change must be documented, presented to the BECH for adoption and then given a minimum of sixty (60) days notice to all banking offices to change procedures to meet the new rule.
2. Changes in timing schedules may be accomplished without modifying the rules. Implementation time will be sixty (60) days or less depending on the agreement of the participants and a notification through a revised Appendix 1.
3. New Offices may be added as authorized by RMA and BECH. The Bank Identification Number may be assigned as needed by the Officer in Charge of the CASH and will become effective within thirty (30) days of notification through an amendment to Appendix 2 and distributed to all participants.
4. Changes in record retention times will require the approval of BECH for the RCH and the CASH. Implementation will be immediate upon approval by notification through a revised Appendix 3.

Appendix 1.	Hours of Operations
Appendix 2	Bank Identification (code) numbers
Appendix 3	Record Retention Requirements
Appendix 4	Schedule of Fees
Appendix 5	Reasons for Return Cheques
Appendix 6	Return Clearing Form

Appendix 1

BECH Hours of Operation

Receipt of forward presentment cheques for truncation at RCH	12:00 noon
Delivery to CASH for clearing and Settlement	2:00 P.M.
Receipt at RCH for presentation	3:00 P.M.
Presentation to Paying Banks	3:30 P.M.
Final Settlement posted on RMA books	4:00 P.M.
Return Cheques information to RCH	10:00 A.M.
Delivery of Return Files to CASH, Thimphu	11:00 A.M.
Receipt of return file at RCH	11:15 A.M.
Presentation of returned information to Collecting banks	11:30 A.M.
Return Settlement on RMA books	4:00 P.M.
Second collection attempt forwarded to RCH	12:00 noon

Comment [h8]: This takes longer by the system at the moment which would be rectified later.

Comment [h9]: Subsequent to the above problem, this process is delayed and presentation to the Paying banks are done only on the next morning. This will be rectified in future.

Appendix 2**Bank Identification (Code) Numbers, Cheque Digit and Settlement Time**

The MICR Bank Identification Number consists of four elements: a two digit code to identify the clearing house, a three digit code to identify the bank, a three digit code to identify the branch, and a cheque digit. In total there will be nine digits for the Bank Identification Number. The coding scheme is shown below.

List of Regional Clearing Houses: the two digit MICR Code

Centre Name	Code
Thimphu	10
Phuntsholing	20
Gelephu	30
Samdrup Jongkhar	40
Mongar	50

List of Bank MICR Codes

The bank code is a three-digit code allotted to each bank as below:

Bank Name	Code
Royal Monetary Authority	010
Bank of Bhutan	020
Bhutan National Bank	030

The branch code is a three digit code. Following is the list of Bank Branch MICR Codes with the Clearing House and Bank codes. The cheque digit is shown separately.

Bank Branch Name (Royal Monetary Authority)	Code	Cheque Digit	Transit Time (Days)
Royal Monetary Authority of Bhutan	10010001	7	0

Bank Branch Name (Bank of Bhutan)	Code	Cheque Digit	Transit Time(Days)
Bank of Bhutan (Thimphu) Main Branch	10020001	4	0
Bank of Bhutan (Thimphu) City Branch	10020002	7	0
Bank of Bhutan(Thimphu) Dzong Branch	10020003	0	0
Bank of Bhutan, Paro Branch	10020004	3	1
Bank of Bhutan, Haa Branch	10020005	6	2
Bank of Bhutan, Wangdue Branch	10020006	9	2
Bank of Bhutan, Punakha Branch	10020007	2	2

Bank Branch Name (Bank of Bhutan)	Code	Cheque Digit	Transit Time(Days)
Bank of Bhutan, Gasa Branch	10020008	5	3
Bank of Bhutan(P/Ling) Main Branch	20020009	5	0
Bank of Bhutan(P/Ling) City Branch	20020010	5	0
Bank of Bhutan, Samtse Branch	20020011	8	1
Bank of Bhutan, Tsimasham Branch	20020012	1	1
Bank of Bhutan, Gelephu Branch	30020013	1	0
Bank of Bhutan, Sarpang Branch	30020014	4	1
Bank of Bhutan, Damphu Branch	30020015	7	2
Bank of Bhutan, Zhemgang Branch	30020016	0	2
Bank of Bhutan, Trongsa Branch	30020017	3	2
Bank of Bhutan, Dagana Branch	30020018	6	2
Bank of Bhutan, S/Jongkhar Branch	40020019	6	0
Bank of Bhutan, Deothang Branch	40020020	6	1
Bank of Bhutan, P/Gatsel Branch	40020021	9	2
Bank of Bhutan, Mongar Branch	50020022	9	0
Bank of Bhutan, Bumthang Branch	50020023	2	2
Bank of Bhutan, Trashigang Branch	50020024	5	2
Bank of Bhutan, Lhuntse Branch	50020025	8	2
Bank of Bhutan, T/Yantse Branch	50020026	1	2
Bank of Bhutan, Gomtu Branch	20020027	3	1
Bank of Bhutan, Gedu Branch	20020028	6	1

Bank Branch Name (Bhutan National Bank)	Code	Cheque Digit	Transit Time(Days)
Bhutan National Bank (Thimphu) Main Branch	10030001	1	0
Bhutan National Bank, Paro Branch	10030004	0	1
Bhutan National Bank (P/Ling) Main Branch	20030009	2	0
Bhutan National Bank, Gelephu Branch	30030013	8	0
Bhutan National Bank, Mongar Branch	50030021	3	0
Bhutan National Bank, Trashigang Branch	50030024	2	2
Bhutan National Bank, S/Jongkhar Branch	40030019	3	0
Bhutan National Bank, Wangdue Branch	10030006	6	2

Bhutan National Bank, Bumthang Branch	50030023	9	2
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Calculation of the cheque digit for the Bank Identification Number.

The cheque digit is calculated by applying a formula to the bank number. Each digit in the bank number code is multiplied by 3, 7, or 1. The dashes have no numeric value and thus are not used in the development of the cheque digit. Once the multiplication has been completed, the individual results are added together from left to right. The sum of the numbers is then subtracted from 220. The remainder in the unit's position is the cheque digit. For example:

Bank code	5	0	0	3	0	0	2	4
Multiplied by:	3	7	1	3	7	1	3	7
	15	+0	+0	+9	+0	+0	+6	+28
	= 58.							
	220-58=162							

Cheque digit is equal to two (2), the number in the unit's location after subtraction.

Transit Time

The transit time is the number of days it will take to physically delivery the cheque image files to the paying bank office from the Regional Clearing House (RCH). (When fax is used it is considered same day presentment since the images are being delivered electronically.) This will then be the time settlement amounts are delayed for posting from the clearing date. The time will affect the collecting bank offices as well as the paying bank offices. These offices will need to understand the timing in their procedures for reconciling their clearing accounts maintained at RMA. Where fax deliveries are successfully made then the settlement time would be considered as same day settlement. It may be that on some days the fax will be used for presentment of images where on other days physical delivery of images will occur. In the latter case, when RMA does not adjust the time schedule, it may be charging paying banks float while the items are being forwarded for presentation and payment.

Appendix 3

Record Retention Requirements

- | | | |
|----|------------------------------------|---|
| 1. | Collecting Bank Office | |
| | a. Delivery Statements | Six months |
| | b. Photocopy of cheques | One year |
| | c. Settlement Statements | As per internal policies or three years |
| 2 | RCH | |
| | a. Delivery Statements | Six months |
| | b. Batch Header documents | Two months |
| | c. Original Cheques | As prescribed by law or three years |
| | d. Computer image files | One year |
| 3 | CASH | |
| | c. Computer image files | Six years |
| | d. Settlement statements files | Six years |
| | e. Backup files at relocation site | Six years |
| 4 | RMA | |
| | a. Net settlement statements | As per internal policies or five years |
| 5. | Paying Bank Office | |
| | a. Image Files | As per internal policies or six years |
| | b. RMA Statements | As per internal policies or three years |
| | c. CASH Activity statements | As per internal policies or three years |

Appendix 4

Schedule of Fees

Type of fee	CHARGED TO			Amount
	Requesting Office (Organization)	Collecting Office	Paying Office	
Presentment of cheque		Yes	No	N/A
Returned image for insufficient funds		Yes	Yes	Nu 250
Retrieval of image	Yes	Yes	Yes	See Below
Cheque returned for no endorsement		Yes		N/A
Late delivery of Delivery Statement		Yes		N/A
Delivery Statement		Yes		N/A
Failure to notify RCH of activity		Yes		N/A
Second Presentment		Yes		N/A
Return of second presentment		Yes	Yes	Nu 250
Presentment of Post Dated cheques		Yes		Nu 100*
Presentment of stale dated cheques		Yes		Nu 100*

N/A Not Applicable

*These charges would be in addition to any returned image charges.

The following fees for retrieval services will be charged to the Requesting Organization.

Retrieval of cheque (within 30 days of presentment)	Nu 20
Retrieval of cheque (over 30 days of presentment)	Nu 50
Retrieval of cheque (over one year of presentment)	Nu 100
Copy of image settled within 30 days	Nu 5
Copy of image settled over 30 days	Nu 20

A Requesting Organization is other than a banking office that has legal authority to have access to original cheque documents.

Comment [h10]: This is a proposal.

Appendix 5

Reasons for Return Cheques

-
1. Insufficient Funds
 2. Words and Figure:differ/required
 3. Drawers Sig: differs/required/incomplete
 4. Alteration requires drawer's full sig.
 5. Effects not clear: Present again
 6. Joint Sig. Required
 7. Signature Missing
 8. Account closed/Deceased depositor
 9. Invalid account no./no account/different account
 10. Account blocked
 11. Not arranged for/Incorrect payee bank
 12. Invalid date/out of date
 13. Stopped payment /cancelled cheque
 14. Exceeds arrangements
 15. Post dated(over six month old) cheque
 16. A duplicate of an image that has already been paid.
 17. For non standard cheques, an incorrect identification of the paying bank office.
 18. There is materially altered image and reflecting a materially altered cheque.
 19. Amount of cheque and amount charged differ
 20. Endorsement missing/incomplete/irregular
 21. Cheque belonging to different a/c.
 22. Mutilate cheque /Forged: amount/ sig.
 23. Others

Appendix 6

Return Clearing Form

Return Clearing Form

Payee Bank Name.....
Payee Branch Name.....

Payee Bank Branch Code.....

Date:

Check Sequence No	Collecting Bank and Branch Name	Check Processing Date	Cheque No	Account No	Amount (Nu)	Return Reasons
Total						

Prepared by: Signature
Name

Procedures at the RCH

Introduction

The following are procedures to be used for each Regional Clearing House (RCH) in the Bhutan Electronic Clearing House (BECH) for controlling, entering, verifying, proving, adjusting, recording, truncating, retrieving, transmitting, and receiving cheques and cheque images. Many of the features discussed may be part of an automated process while others are mostly manual (at the RCH's) that will require a high degree of accuracy. The more accurate the cheque information is at the point of entry, the better the performance of products and services throughout the entire collection process. The procedures begin with receipt of cheques at the RCH, the conversion to an image, to the presentation of the image at the Paying Bank Office and the settlement of funds between participating banking offices. These procedures closely follow the NCR requirements to enter data into the system, verify the accuracy of the data, assuring integrity of the data, processing of the data by the system, presentation of the data to the Paying Bank Offices and for subsequent retrieval purposes for whatever the reason.

These procedures may be modified from time to time based upon change in conditions, the introduction of more efficient approaches, the usefulness of the procedures no longer exists or the procedures are not

meeting their intended purpose. The procedures may be customized for an individual RCH based upon unique conditions at that particular RCH. All changes will require the approval of the Officer in Charge of CASH and may be implemented within ten (10) days from notification of approval.

1. Control of Delivery Statements at the RCH.

- a. Each Collecting Bank Office will positively notify (by phone, fax or e-mail) the RCH on a daily basis concerning the total amount (value) and total number of cheques it will be presenting for clearing and settlement and the expected arrival date and time at the RCH.
 - i. Zero amounts and quantities are acceptable and expected if no cheques are being presented for clearing, and it will signify that the Collecting Bank Office will not be submitting a Delivery Statement for the particular business day.
 - ii. The RCH will maintain a log book to record the following details for each business day:
 - The Collecting Bank Office identification number,
 - The number of cheques to be cleared,
 - The method of delivery, and
 - The total amount (value) of the cheques to be presented for credit.

2. Receipt of Delivery Statements at the RCH and entering control values.

- a. Upon receipt of a Delivery Statement with cheques for clearing the RCH data entry person will validate the data with the hard copy log from the notification process. Verification will be with the Delivery Statement for the given business day:
 - i. The Collecting Bank Office identification number,
 - ii. The number of cheques to be cleared,
 - iii. The total amount (value) of the cheques, and
 - iv. The time and date of receipt at the RCH
- b. The data entry person will verify the accuracy of the Delivery Statement data with the information previously entered in the log and will identify any discrepancies in the Collecting Bank number, the total number of cheques and the total value of the cheques.
 - i. When there are no discrepancies, processing may continue as described in (c) below.
 - ii. When there are discrepancies, the information with the Delivery Statement will take precedence.
 - iii. When the number of total cheques from the Delivery Statement is correct, then processing may continue as described in (iv) below and a note will be made to advise the Collecting Bank Office of the difference with their notification number.
 - iv. When there are discrepancies in the total amount (value) of the cheques, then the RCH will "sight" verify the amount on the Delivery Statement for accuracy.
 1. When the total value of the cheques, as shown on the Delivery Statement is correct then processing may continue at (c) below and a note will be made to advise the Collecting Bank Office of the difference with their notification value.
 - v. When the cheques from the Collecting Bank Office arrive after the close off hours (late), they will be held in abeyance for processing the next business day. The Collecting Bank Office will be advised of the late arrival.
- c. After the information has been correctly entered from all Delivery Statements, and compared with data from the notification file, the data entry person will identify any Collecting Bank Offices that:

-
- i. Notified the RCH about sending a Delivery Statement and the RCH has not received a submission. An investigation will commence and a note entered in the log book as to why there was no Delivery Statement.
 - ii. The RCH received a Delivery Statement, but had no notification from the Collecting Bank Office. An investigation will commence to determine why, with a note inserted into the log book for the reason.
 - iii. A summary report of discrepancies between data from the Delivery Statements and the Notification file will be prepared for the RCH supervisor and statistical reporting.
 - iv. The RCH supervisor will notify each Collecting Bank Office of their respective discrepancies on a daily basis and note the time of day the report was made and the person with whom the issues were discussed.

3. Processing of Cheques within a Delivery Statement at the RCH.

- a. The data entry person will enter the information found on the Delivery Statement including the Collecting Bank Office number, the number of batches and the total value of all the cheques included with the Delivery Statement (the amount the Collecting Bank Office is expecting for credit).
- b. Within a Delivery Statement there may be one or more batches and each batch will be processed and subsequently verified individually.
- c. All batches within a Delivery Statement will be processed by the same data entry person (maker in NCR terms) and will be verified by the same verification person (checker in NCR's term), who will be a different individual from the data entry person.
- d. Batches will contain:
 - i. Standard cheques (i.e. cheques with MICR encoding of Bank identification number and Customer Account number),
 - ii. Non standard cheques (i.e. one or both of the fields mentioned above not MICR encoded), or
 - iii. A mixture of the two types of cheques,
- e. A data entry person will process all the cheques associated with one Delivery Statement whether there is only one batch or several batches.

4. Processing of Batches within a Delivery Statement at the RCH.

- a. The data entry person will enter the total number of cheques in a batch and the total value of the batch to be processed from the Batch Header document.
- b. The data entry person will enter each cheque within a batch through the scanner, one document at a time.
- c. As the cheque is being scanned, the system will imprint a unique identifier on the paper cheque and the same number will be attached to the image created from the cheque to facilitate retrieval processes for both the image and/or a paper cheque.

Note: "On us" cheques are acceptable for image processing, but are not eligible for the return process. "On us" cheques are considered to be those cheques where both the maker and the payee have an account at the same banking office. It will not include those cheques where the maker and the payee have accounts at different branches of the same bank.)

- d. The system will place the Collecting Bank identification number with the image, to facilitate return (unpaid images) process handling.
- e. For each cheque, the amount will be keyed (after all cheques for a given Delivery Statement have been scanned) as a separate task.

EXCEPTION: For non-standard documents, the data entry person will enter the cheque number (if not MICR encoded) the bank identification number (if not MICR encoded), the Customer Account number (if not MICR encoded) and the amount.

- f. The data entry person will validate that there is a valid image scanned from both sides of the cheque that meets the criteria for image processing.
 - i. When the image is not valid, the data entry person will note in a log book the cheque identity, Collecting Bank Office and the amount recording that the document is being returned and the reason why it is not eligible for image collection,
 - ii. Appropriate accounting entries impacting the Collecting Bank Office will be developed for control purposes,
 - iii. No record of the invalid image will remain in the computer file, and
 - iv. The cheque will be placed in a file for return to the Collecting Bank Office
- g. For each cheque, the system will authenticate that the Paying Bank Office identification number is valid.
 - i. When the Paying Bank Office identification number is invalid, the Data Entry person will remove the cheque from the batch, initiate appropriate accounting adjustment entries and record that the cheque is ineligible for collection. The cheque will be placed in a file for return to the Collecting Bank Office.
 - ii. The cheque will be physically returned to the Collecting Bank Office with the appropriate information, and the reason for ineligibility for collection.
 - iii. The image will be removed from the computer file.
- h. Once all the cheques from a batch have been scanned and the amounts have been entered into the system as a separate task, the system will calculate any differences between the aggregate value of the cheques within each batch and the amount entered from the batch header document.
- i. Differences in the total amount of the batch and the total number of cheques in the batch will not be reflected until the batch has been verified (see 5 below) and ready for the proof process described below.
 - i. The data entry person will continue to process other batches in the Delivery Statement until all the cheques included with the Delivery Statement have been scanned and processed as described in a, b, c, d, e, f, and g above.
- j. After all cheques in batches from a Delivery Statement have been scanned, the system will calculate any differences from the control amounts entered from the Delivery Statement.
- i. Differences as to the total number of cheques and total amount of the cheques will not be reflected until the Delivery Statement has been verified (see 5 below) and ready for the proof process described below.

5. Verification of Delivery Statement and Batches at the RCH (Batch Balancing)

- a. A verification person, other than the data entry person, will sight verify the data elements keyed by the data entry person from the source cheques.
- b. The verification person will match the amounts by sight from the original cheques and identify any differences in amounts, cheque by cheque and batch by batch.
 - i. When there are no differences in amounts then processing will continue as discussed in (6) below,
 - 1. When there are differences in the amounts, then the data entry person must correct the files and match the original cheques.

-
2. Once all the cheque amounts are equal (i.e. both the amounts entered by the Data Entry person and the amounts verified by the Verification person) on an image-by-image basis, the proving process may begin as discussed in 6 below.

6. Proving Delivery Statement and Batch Values at the RCH (Super Balancing)

- a. The system will use the data entry file for validating all control values entered from Delivery Statements and Batch Header documents.
- b. For each Delivery Statement the number of batches scanned must match the number of batches entered.
 - i. When the total number of batches scanned matches the control number, then there will be a validation of the amount discussed in (c) below on a batch by batch basis.
 - ii. When the total number of batches is different, the identity of the missing, or over, batches must be determined for reconciliation purposes.
 - iii. A description of what is missing (or what is over [extra]) must be described and an amount identified to adjust the total being collected.
 - iv. The computer system will automatically print the advice of adjustment for advising the Collecting Bank Office based on the information provided by the Reconciliation person.
 - v. The Collecting Bank Office must be made aware of the situation through an advice. Amount validation may begin as described in (c) below.
- c. For each batch in a Delivery Statement the total amount must be compared to the control amount for any difference. If no differences, then the next batch in a Delivery Statement will be validated. Once all batches have been validated and the control amount from the Delivery Statement is "in proof and validated" the image file will become ready for transmission to the Clearing and Settlement House (CASH) for clearing and settlement. The computer system will mark the file for release.
 - i. When a batch is not "in proof" then the differences must be located through missing cheques, over (extra) cheques, cheques not qualifying for imaging, or improper amount being assigned to a cheque by the Collecting Bank Office or the RCH staff.
 1. The Reconciliation person may review batch amounts to facilitate locating the discrepancy.
 2. For any adjusting amount, an accounting entry must be made so that it will adjust the Collecting Bank's Delivery Statement amount for credit.
 3. The original total amount on the Delivery Statement will not be changed, but the value will be changed through adjusting entries and the computer will print advices based on information provided by the Reconciliation person.
 4. The advice will show the original amount, the actual amount, the adjustment amount and the cause of the adjustment.
 5. The RCH supervisor will review the adjusting accounting advice and note approval.
 6. When approval is not given an investigation will be required and the results noted in the computer file.
 7. Any decision to process the document will follow the procedures previously noted above.
 8. Accounting advices will be delivered to the Collecting Bank Office along with the net amount to be credited to the account.

- ii. Once "in proof" (both the Delivery Statement and the related batches) the image file with its proper total of the number of images and the total value of all images will be ready for transmitting to the Clearing and Settlement House (CASH).
- d. Once all Delivery Statements are in proof the paper cheques will be set aside for physical filing and subsequent retrieval as demanded.
 - i. The cheques will be retained for the proper retention period as required by Bhutanese law or the BECH rules.
 - ii. RCH staff will retrieve cheques on demand and with proper authorization.
 - iii. Upon reaching the completion of the retention period, the cheques will be destroyed in a secure manner.

7. Preparation of image files for transmission from the RCH to the CASH.

- a. After the proving of all Delivery Statements and converting all eligible cheques into images, the system will prepare the various Delivery Statement files for transmission to the Clearing and Settlement House (CASH).
- b. The file will have:
 - i. The total value of images in the file for control purposes,
 - ii. The total number of images, and
 - iii. The Collecting Bank Office identification number with the image.
- c. The system will prepare a report listing each Delivery Statement:
 - i. Identifying the Collecting Bank Office identification number, the number of images to be cleared and the total amount of the images to be settled.
 - ii. The total number of cheques converted to images and the total value of those cheques.
 - iii. Adjusting entries identified by RCH staff by Collecting Bank Office, and
 - iv. The net amount to be credited for each Collecting Bank Office.
- d. The report will show RCH totals for:
 - i. The number of images to be cleared, and
 - ii. The gross amount (value) of images to be settled.
- e. The file will contain appropriate control features to identify any shortcoming that might occur during transmission.
- f. Each RCH will notify the CASH when it has finished converting cheques to images and has an "in proof" file ready for transmission. The notification may be sent by e-mail (preferable), fax or phone.
- g. The file(s) will be released for transmission by the appropriate time as reflected in the BECH clearing house rules. The system may transmit the image file in its entirety or in segments as best handled by the computer system and the related communications capability

8. Clearing and Settlement House (CASH)

- a. All procedures at the CASH will be automated, after the operator has manually started the process. The operator must assure that all RCH files have been received prior to starting the process.
- b. If within 15 minutes after the BECH close off hour, each file from each RCH has not been received the operator to commence an investigation.
 - i. The operator will contact the RCH in question and determine why the file has not been sent if there has been no notification of a problem.
 - ii. The operator will note the findings in a computer file and advise the CASH Officer in Charge of the situation.
 - iii. Management of BECH will decide whether to commence clearing and settlement, or delay clearing and settlement and for how long based on received information.
 - iv. When there is to be a significant delay (over 60 minutes) the decision to defer processing will be escalated to RMA management and senior management at the affected banks.
- c. The CASH will validate each RCH file to assure that the number of individual images and the total value of individual images are the same as the control totals forwarded with the file.
 - i. When there are differences, the CASH will request a retransmission of the file to assure there are no communication defects.
 - ii. Upon receiving a new file, the same validation processes will be made and if no discrepancies are present, then processing will continue as described below.
 - iii. When the problem persists for more than five iterations, the computer system will alert the operator to request technical assistance and note there will be a delay in the clearing and settlement process.
- d. Once the clearing and settlement process begins, after all RCH files have been received, and by operator intervention, the system will validate that the Paying Bank and Collecting Bank Office identification numbers are valid
 - i. When a bank identification number is invalid, an exception file will be prepared by the system,
 - ii. The affected images will become ineligible for clearing and settlement,
 - iii. Adjusting entries to reduce credits will be developed, and
 - iv. The separate file of ineligible images and related entries will be returned to the appropriate submitting RCH where the advice(s) will be printed for notification to the Collecting Bank Office(s).
- e. The system will calculate credits for each collecting bank office.
- f. The system will sort the images into Paying Bank Office sequence.
- g. The system will arrange Paying Bank Office images by RCH and develop files for transmission.
- h. The system will calculate the debit amounts for each Paying Bank Office for settlement.
- i. The system will calculate the net settlement amounts for each participating bank office, normally on a same day basis. However;
 - i. For those Paying Bank Offices that are unable to receive images on the same day (e.g. the communication line or the fax machine is out of service, the fax machine is out of service, etc.), the system will calculate the deferred payment amount and determine the deferred credit amount by Collecting Bank Office.
 - ii. These deferred amounts (one day, two days, three days, or more) will be reflected in the settlement numbers returned to the participating offices.

- j. The CASH will begin the transmission of image files and settlement amounts (debits, credits and net amounts) to the RCH's for distribution to Paying Bank Offices.
- k. The CASH will send the net settlement file to RMA for posting to the participating bank's current account. (Currently this will be two figures; one debit and one credit both of the same amount to the Bank of Bhutan or Bhutan National Bank.)
 - i. RMA will post deferred amounts according to the day the amounts will become available.
 - ii. When Paying Bank Office(s) head office current account(s) lack sufficient funds for same day settlement, RMA will follow, with the help of the banks, alternative procedures to complete the settlement.
- l. The system will develop the appropriate status reports to advise management of the day's workload and related statistics.
- m. The system will complete its end of day processes and create appropriate backup files for transmission to the alternate operation site.

9. Delivering images from the CASH to the RCH for the Paying Bank Office

- a. If there are no images for presentment at a given RCH, the computer system will automatically notify the RCH of this situation.
- b. The RCH computer system will validate incoming files to assure there are no communication errors and that the individual entries equal the control total amounts.
 - i. When there are errors the RCH computer will request a retransmission of the file from the CASH to seek an accurate file.
 - ii. After ten tries, the computer system will alert the RCH operator and request outside assistance to solve a technical problem before processing can continue as described in (c) below.
- c. The computer system at the RCH will prepare each file received from the CASH for delivering images to the Paying Bank Office by the predetermined method (e-mail, or fax or hard copy in the event of extended equipment failures).
 - i. The computer system will notify each Paying Bank Office by fax in its region that the clearing and settlement has been completed, even if a Paying Bank Office has received no images for payment.
 - ii. If the computer system is unable to deliver images to the fax at the Paying Bank Office, it will advise the operator of the situation and prepare hard copy images for presentment.
- d. Settlement information and adjusting entries will be forwarded with each file of images to be paid by each participating office and to those Collecting Bank Offices that have no images being presented for payment.
- e. Deferred settlement amounts will be shown where appropriate.
- f. Summary reports will be printed for RCH references purposes.
- g. RCH staff will complete end of day close out procedures and assure relevant reports have been printed.

10. Return Image (items) Processing at the RCH representing the Paying Bank Office.

- a. The Paying Bank Office will return data about images not being paid to its respective RCH by fax. Paying Bank Offices not returning any images are to notify their respective RCH of this fact by fax

- (preferable) or phone. The RCH will maintain a log of reports by each Paying Bank Office on a daily basis.
- b. The fax will show the unique identification number of the image, the amount and the reason for return. If there is more than one return item, a total of all return amounts will be shown on the fax.
 - c. Each item (image) being returned will show the reason for return.
 - d. The RCH will retrieve the image from the computer file based upon the unique number assigned during the scanning process, which will be shown on the fax message and mark the image as being returned along with the reason for return.
 - e. "On us" cheque images will not be eligible for the return process.
 - f. The RCH will develop a Return file for the amount of each item being returned identifying the returning bank (Paying Bank) that will be credited with funds and the depositing bank (collecting bank) offices that will be charged (debited) for the return image.
 - g. The computer system will validate that the bank identification numbers are valid.
 - h. The Return person will assure the bank offices are properly identified and the reason for return is shown. A verification person will validate the return file has been developed correctly and if approved will release the file for transmission to CASH.
 - i. When the files have been developed and all returns have been processed, the file will be ready for transmission to the CASH for processing by the time shown in the BECH rules.
 - j. The system will prepare a report by Returning office of the number of return items, and the total amount being returned. The report will also show the total number of return items and the total values of all the items being returned for the RCH.
 - k. The RCH staff will advise the CASH staff by e-mail (preferable), fax or phone whether or not there will be a Return file for the day, the total number of return items and the total value of the returns.
 - l. The RCH will transmit the return file to the CASH before the Return close off hour as noted in the BECH rules.

11. Processing of the Return file at the CASH.

- a. The operator will monitor the system to assure all return item files have been received prior to manually initiating the automated processes. All procedures at the CASH will be automated, but may be overridden by operator intervention.
- b. If within 15 minutes after the Return close off hour, the file from each RCH has not been received the CASH operator will commence an investigation.
 - i. The operator will contact the RCH in question and determine why the file has not been sent if there has been no notification of a problem or no notice of non-participation for the current business day.
 - ii. The operator will note the findings in a computer file and advise the CASH Officer in Charge of the situation.
 - iii. Management will decide on whether to commence the Return clearing and settlement, or delay return clearing and settlement and for how long based on received information.
 - iv. When there is to be a significant delay (over 60 minutes) the decision to defer the Return processing cycle will be escalated to RMA management and senior management at the affected banks.
- c. Once the CASH begins processing the Return files, (either automatically or by operator intervention) it will validate that the total of the individual items and the total of the individual amounts are the same as the control totals.

- i. When the totals are different, the computer will request a retransmission of the Return files from the effected RCH and recheck the accuracy of the file.
- ii. When the situation persists after ten attempts, the system will alert the operator and request technical assistance.
- d. The Return clearing and settlement processing procedures will validate that the Paying Bank and the Collecting Bank Office identification numbers are valid.
 - i. When a number is invalid, an exception file will be prepared by the system,
 - ii. The affected items will become ineligible for Return clearing and settlement,
 - iii. Adjusting entries to reduce credits will be developed, and
 - iv. The separate file of ineligible returns and related entries will be returned to the appropriate submitting RCH for printing and notification to the Returning Bank Offices.
- e. The system will calculate credits for each returning (paying) bank office.
- f. The system will sort the items into depositing (original Collecting) Bank Office sequence.
- g. The system will arrange depositing (Collecting) Bank Office items by RCH and develop files for transmission.
- h. The system will calculate the debit amounts for each depositing (Collecting) Bank Office for settlement.
- i. The system will calculate the net settlement amounts for each participating bank (currently Bank of Bhutan and Bhutan National Bank).
 - i. For those depositing Bank Offices that are unable to receive returns on the same day (because of known equipment or communications outages), the system will calculate the deferred payment amount and determine the deferred credit amount by returning Bank Office, but include the amount in the overall report to the respective Head Office.
 - ii. These deferred amounts (one day, two days, three days, or more) will be reflected in the settlement numbers returned to the participating offices.
- j. The CASH will begin the transmission of Return files and settlement amounts (debits, credits and net amounts) to the RCH's for distribution to depositing Bank Offices.
- k. The CASH will send the net settlement file to RMA for posting to the participating banks' (currently Bank of Bhutan and Bhutan National Bank) current account, even if the net settlement balance is zero.
 - i. RMA will post deferred amounts according to the day the amounts will become available.
 - ii. When a Participating Bank Office current accounts lack sufficient funds for same day settlement, RMA will follow, with the help of the banks, alternative procedures to complete the settlement.
- l. The system will develop the appropriate status reports to advise management of the day's Return workload and related statistics.

12. Delivering Return items from the CASH to the RCH

- a. The CASH will transmit the return item files to the RCH as soon as processing has been completed and will be accomplished automatically.
 - i. If there are no returns for the RCH, the computer system will automatically notify the RCH of this situation.

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- b. The computer system at the RCH will validate the Return file transmission from the CASH to assure it is "in proof" and received without error.
 - i. When there is an error in transmission, the computer will attempt to correct the error automatically or request a new transmission of the file.
 - ii. When there have been ten attempts to receive a proper file, the computer will alert the RCH operator and request technical assistance.
 - c. The computer system at the RCH will prepare each Return Item file for delivery to the original Collecting (depositing) Bank Office by retrieving the image from their original presentation file and prepare the file for delivery to a fax, unless there is a significant equipment outage.
 - i. The computer system will notify each Bank Office in its region by fax that the clearing and settlement for returns has been completed, even if the Bank office has received no returns for processing.
 - ii. The computer system will notify the operator if it has been unable to deliver the returns to the appropriate fax machine. In this case a hard copy will be required and the RCH operator will telephonically notify the original Collecting Bank of the return(s).
 - d. Settlement information and adjusting entries from the Return Image process for each participating bank office will be forwarded with the return image file.
 - e. The RCH will retrieve the original cheque from its files and return the cheque to the original Collecting Bank Office along with the reason for return. For images being returned for insufficient funds, the RCH will automatically re-present the cheque a second time following the instruction in 13 below.
 - f. Deferred settlement amounts will be shown where appropriate.
13. Second submission of return images at the RCH.
- a. A Collecting Bank Office may resubmit a returned image when it miscoded the Paying Bank Office identification number on a non standard cheque. The RCH will re-present those cheques not paid for insufficient funds one more time. No other resubmissions of return images will be accepted.
 - b. The RCH will retrieve the original image from its computer file based on the original identification number assigned by the scanning process.
 - c. The RCH staff will check the image to determine if it has been resubmitted for payment more than two times (original plus one time).
 - i. When the image has been submitted more than two times, it is ineligible for clearing and will be returned to the Collecting Bank Office as ineligible for resubmission along with the original cheque.
 - ii. The RCH staff will notify the Collecting Bank Office of this action and prepare appropriate adjusting accounting entries.
 - d. The RCH staff will mark the image as being submitted for payment a second time.
 - e. The RCH computer system will place the resubmitted and verified images by bank in a file for transmission to the CASH.
 - f. All accounting entries will be shown separately for the Collecting Bank office for reconciliation purposes, but the resubmitted image amounts will be commingled with the images being presented for payment each day and will not show separately in the file sent to the Paying Bank Office, but will be marked as a second presentment.

- g. The CASH will not distinguish between first time and second time submission of images for payment to the Paying Bank Office.

14. Second Return

- a. A Paying Bank Office may return any image for insufficient funds or misencoded bank identification number on a non standard cheque.
- b. The image(s) will be marked uniquely for each time it is returned by the Paying Bank Office.
- c. The RCH will validate that the image has been returned a second time and is no longer eligible for collection through the Clearing System.
- d. The image will be returned by the RCH to the CASH for clearing and settlement.
- e. The CASH will return the image to the RCH servicing the Collecting Bank Office.
- f. The receiving RCH will notify the Collecting Bank Office by e-mail (preferable), fax or phone about the further ineligibility of the image to be collected through the clearing and settlement system.
- g. The CASH will make the proper accounting entries for the Paying and Collecting Bank Offices through the net settlement system and advise the banks appropriately.

15. Ineligible cheques

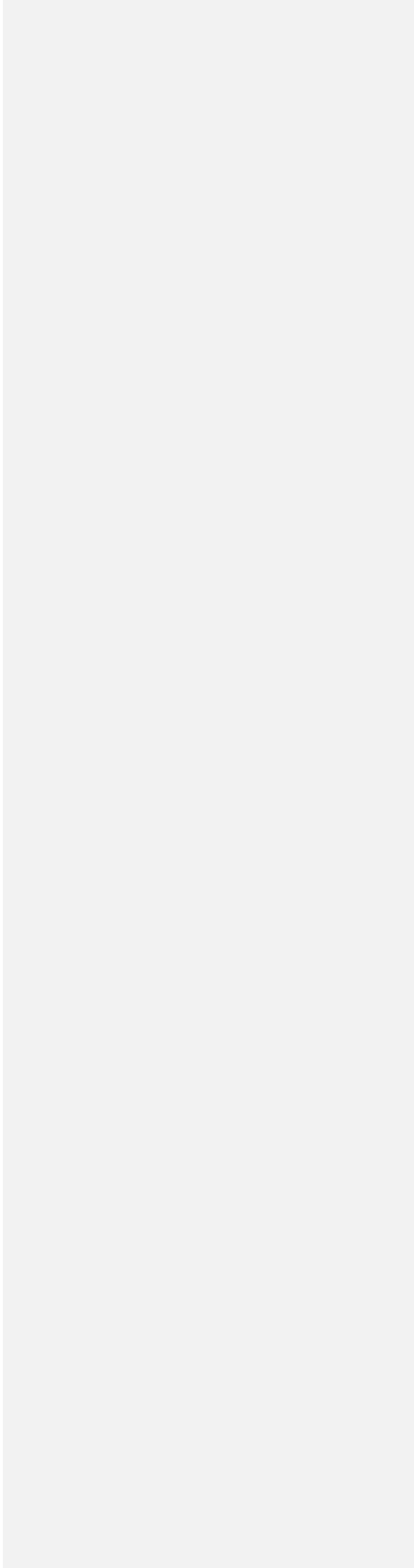
- a. All hard copy cheques that have been determined as ineligible for clearing and settlement or returned for account closed, forgery, altered images or any other reason that the document is not to be paid will be returned to the Collecting Bank Office by the RCH that truncated the cheques within two business days after it has been determined that the cheques were not cleared and settled. The computer system should assist in identifying those cheques that were returned and not paid and prepare a listing by Collecting Bank Office. The RCH clerk will need to retrieve the cheques from the stored file. The computer image filed should be marked accordingly.
- b. The RCH will make note of the hard copy cheques being returned and maintain in its files the record of this activity. The computer based images will be removed from the files of paid cheques.

Royal Monetary Authority Of Bhutan

Bhutan Electronic Clearing House



Figure 1: MICR Cheque Sample



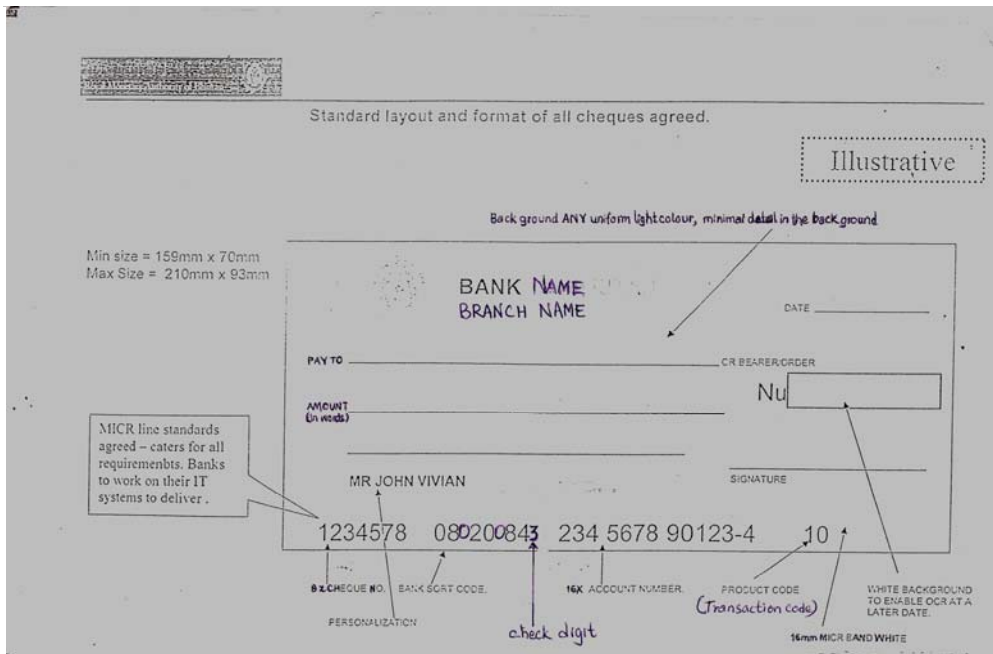


Figure 2: Batch Header Document

Figure 3: Delivery Statement Sample

BANK DELIVERY STATEMENT

BANK NAME <i>Branch Name</i>	DELIVERY STATEMENT	DATE _____
Total Value of Delivery Statement NU <input style="width: 100px;" type="text"/>		
Number of Batches in Delivery Statement: <input style="width: 50px;" type="text"/>		
PREPARED BY _____	CHECKED BY _____	
<hr/>		
<i>100200014</i>		
<i>Bank Sort code</i>	<i>checkdigit</i>	<i>666</i>
<i>Transaction code</i>		