

RP3 onwards: CIS is scheduled to be replaced??  
HES & SOA: separate flows here

Data flow from meters to onwards

Data time stamp to be captured as of when the event was triggered at meter end  
Delay in the events to be reflected on dashboard [**Source triggered timestamp, received at TNB infra timestamp**]

Reads performance  
Firmware upgrade  
ODR performance

Identify master source for each key attribute

The period of historical data needed for first onboarding

AMI SFTP: Adhoc file shipment; meter firmware, etc.

**CIS:**

1. Is it the golden source?
2. SMOC Database - explore more on how frequently refreshed?

**Register reads:**

1. They are the ones to be considered first

Monday, July 27, 2020 4:19 PM

2-Oct: 1st release  
27-Nov: 2nd release  
5-Feb: 3rd release  
2-Apr: 4th release  
28-May: 5th release  
30-July: 6th release

1. Draw an integration architecture - release 1
2. Glimpse of how it will change in subsequent release

# Billing Error Summary

Wednesday, August 5, 2020 2:44 PM

Extracting data from BCRM for daily billing summary: [BCRM Manual extract]

3 days after the billing schedule

State-portion - date - meter reading type - amcg

Meter reading type: 71- valid

73- Estimate from MDMS

93- Estimate from BCRM (Ho Fook)

01Reversal

Filter for -

1. Bill not created
2. 73
3. 93

Manual checking for

1. Commissioned
2. Reporting status

MSN and CA, etc. will be shared with Ho Fook - check against his Masterlist (All the MRUs of the CA)

## Sample

1. Ho Fook: As and when the need comes
2. Najah: As and when the need comes - when a lot of estimates are arriving
3. KWh PWG

Need to check with Ho if he can share the Masterlist

Daily: HoU report - BCRM as source: MRO request to BCRM and the response [Manual extract]

Status in BCRM validated against reading validation from SI team....to see how many valid readings that they have

Validated column from BCRM

HES - MDMS - BCRM

HES- Ira [ Checks against systems ]

MDMS - Aina [ Checks on current status ]

# Taskboard

Thursday, August 6, 2020 6:33 PM

1. Review existing AMI architecture and draw integration proposal
2. Check for Cybersecurity and other documents needed
3. Review meeting notes and action items

Monday, August 17, 2020 9:08 AM

Khalil - Firmware update  
Nadia, Farid - AMI enablement  
Simon - NC NR

# Key people needed from TNB

Tuesday, August 11, 2020 5:40 PM

1. Change request
2. ICT processes
3. Architecture review, data classification review, etc.

# Key architecture questions

Thursday, August 13, 2020 9:51 AM

1. Is HES a queue or has a data store? If data store, how long does it store?



# Lessons from DOC releases

Thursday, August 13, 2020 10:53 AM

1. Handshake between the team documenting requirements and the team creating user stories, mapping, etc. using a walk through
2. UAT needs to be scoped for defects

1. Integrated plan with Source Systems

Plan with the Source systems -

1. Take MDIC along to give more context
2. Usually they should be engaged once finalized requirements

Inform on the dashboards coming and anticipated requirements

Share the list with Farhana

Wednesday, August 19, 2020 10:54 AM

25/Aug - Meter Reads and Load Profile

27/Aug - System Health and Meter Events

# ROC reports and current Process

Wednesday, August 19, 2020 2:28 PM

Real Time Infrastructure Monitoring

Real Time Application Monitoring

► Dynatrace

Need more details, log analysis?

## Configuration: LPC vs IEE

BCRM - tagged as RMR. Few meter types for LPC

IEE - configured correctly on five services...

Register create, meter create, IP and two more

And in addition need to check on the password validity

Have scripts to monitor these statuses

Some issues on that front for backdated TECO, etc. A list with issues can help

Currently pre-processed in Python with few scripts to do detailed analysis on the issues

## Daily Call Analysis: Meter Reads & Load Profiles

1. Mostly focused on Load Profiles
2. Register reads, etc.
3. More focused on systems

It focuses on the status of MDM to communicate with Meters

Errors summary from Communication log

Calls are scheduled manually

Data driven schedule to get the data - 11 different sets to get the status and then use that to extract reports as of a specific time across these 11 sets

Set of error codes - need to do analysis by them

## Data Availability & Missing Interval Data Report: Load profiles

Need to confirm with data owners - on the two windows - how far to look back for availability as well as missing intervals

Need to look in to the estimate vs valid data only for load profiles

Need to define runs or thresholds

## RMR Billing SITREP:

Every 1-5 of the month every three hours

Reported per installation/Meters to be confirmed

MRO will be requested for all meters

Current view is by Zone, State and Month of reporting

Existing dashboard for this in Grafana

## BCRM Reports:

BCRM Status - for first 5 days

BCRM end of day snapshot

**PMU & Generators - TNBT Meter Web:**

Need to discuss on what to monitor -probably just the transfer of data to TNBT Web - load profile

**Intelligence Centre: (IAP- to decom in some time) [Siti's Excel]**

NLT algorithm gives the list - IAP

The team does some analysis and refines list - excel

Later SOs are created for these and then monitor performance on whether it's an issue or not - BCRM

The current monitoring is to see whether the issues are actually the case or not? - BCRM

Ageing- from SO take the ageing to complete or current

11 - not a KPI any more

**Time drift issues:**

Synching issues for the meter clock...IEE clock is the reference in this case

# BCRM vs IEE reconciliation: Nasrul

Friday, August 21, 2020 3:09 PM

Operational report

Master script IEE

Schedule for files

Config extract 2 - 8 AM

BCRM Masterlist - 6:40(7 AM)

We can schedule reports using MDIC to put on the MDIC SFTP, similar can be used for smart meter

- WinSCP to connect with Server
- MDMS is exporting to the server above
- Meter.txt - all meters in MDMS; Create Meter fail - if present in BCRM but not in MDMS
- Config Extract 1.txt: not available here then location notification fail; another case here (refer recording later)

Logical Device No. in BCRM vlookup with	TRIM(SP. Service Point ID) in MDMS

- Different IP
- Duplicate IP
- Daisychain Issue - non - N daisychain flag; Master ID and Slave ID populated
- TCP is blank - TCP Blank issue (config extract 2)
- BOMB (Build of Meter Brand) issue (config extract 1): Failure - Service mode: 99 and NoData is not blank - BOMB fail

Two kinds of file are shared from BCRM

1. Automated report - Masterlist
2. Manual report - SIM card

Active or Inactive Sim card - IEE doesn't have the serial number, so complex lookups needed

Serial number in BCRM -

So, if not present in BCRM - inactive but if present and permanent disconnect status in BCRM (SimCard Status is PD), then mark accordingly

In BCRM, if package name is blank then Sim Card is not classified

For non-IP based:

Daisychain logic check

BOMB fail

Meter not classified - IQ03: both fields blank

Register group in BCRM vs Meter program (config File field in config 1) in MDMS - should be equal and compatible (Masterlist for the compatible reg. group to lookup against)

Compatible or not

Same or different

4th from last and last character to remove in BCRM reg. group and then compare against MDMS value from config 1

Masterlist in AMS if blank - Not tag IEE

Meters removed: INST in System Status - installed

AVLB - removed in system status only (IQ03)

Meter 3tier: Any meter ending with character E'

Remarks prioritization:

1. Meter create

# Data Availability & Missing interval data report: Nasrul

Monday, August 24, 2020 8:41 AM

## Operational report

Only load profile

Master file is Masterlist; this is daily report

Reads collection start from 12 and 4-5 is an estimated finish time

Should start by 6 AM

- Should look at this KPI for only the meters that are complete in report 3
- Config extract 2 - last read time (LRT)
- MID report - missing interval column (Empty/EST)
- Need to read in accordance with the gap start and gap end date
- Shows the continuous gaps between start and end date and time with multiple entries for same meter id
- The report is currently manually extracted (Custom SQL report), can be scheduled as well but need to ask system admin first (ICT as well as PPS - Pn. Suhana)
- Device No. = Meter ID
- Lookup table to come up with flag for the report



# Billing Report- SITREP: Azian

Monday, August 24, 2020 9:52 AM

MROs obtained t-2 (27th of last month)

- Call of MRO starts on 1st of the month
- Installation as well as MRO level - zone level
- Invalid (Validation missing) - not sent to BCRM (reading should be complete for all 9 registers)
- Success of MROs captured at each interval - 645, 1245, 1545
- BCRM sends MROs to the IEE (4 registers per meter but some have 9 registers)
- Counted as installations that have MRO/installation
- 645 - take old MRO
- Should check the dates to validate if the MRO is for current month
- Email with the report vs access differentiation
- On 6th of each month, all the remaining meters get SO to get manual reads

Failure analysis: (2-6)

- Details of the issue
- Error code and action taken

Inputs:

- Installation status (same Masterlist from BCRM) - latest as of 1st of Month 06.40 - same as Nasrul
  - o Device No - MSN
  - o Installation - installation id
- Hvbeentity - total MRO: IEE - 740 once every day 1-6
  - o Entity ID - MSN
  - o Correlation ID - Register level unique value
  - o BillStartDate
- Hvbereadingregiste - reading status: IEE - 645,1245, 1545 every day 1-6 [3 days only]
  - o Meter ID
  - o Register ID
  - o Success if there is value in DataValue
  - o Read date
- Exporthistory - export history: IEE - 645,1245, 1545 every day 1-6 [will have data from 1-6]
  - o ENTITY ID - MSN
  - o RegisterID
  - o Endtime
- MeterProgramRef - to schedule for once every month
  - o BCRM - new program to generate this file
  - o Master for register group mapping to number of registers
- Output from step 3 and 4
- Lookup table for error from step 3,4 to higher category
- List of vvip customers - look up table

# Billing Analysis Report : Azian

Monday, August 24, 2020 10:57 AM

Billing information from BCRM to be added for this report

- Meters in Installation status but not in MRO
  - o Detail from installation status to provide there
- RMR Account - AMCG = 101
  - o The rest will be billed using load profiles - 999
  - o If atleast one meter in any installation is 101, then considered RMR account
- Reading available (IEE) = Success export
- Failed call - due to incomplete configuration as well as any error
- Error code 27 - comm related
- Incomplete config - service incomplete
- Follow excel order for precedence to tag at the installation ID
- Same report to be released for RE and NEMS, etc. different meter types LPC, PS/IPP, RE, NEM, FM

Input

- zDM\_RMR (RMR Billing LPC report) once a day - 05:30 updated, need to be scheduled yet with MDIC\_
  - o Reading Av - meter level
  - o Bill Created - inst. level
  - o Meter Id
  - o Installation ID

# List of files needed from Siti

Monday, August 24, 2020 11:50 AM

1. Process to do BCRM vs IEE reconciliation
2. Files required for BCRM vs IEE reconciliation -

# Meeting with Source Systems

Wednesday, August 26, 2020 3:33 PM

BCRM - Ho Fook, Nida?

SI - Imran

SOA - Yuvanraj

Siemens - Faizal (Energy IP)

Kok Yeen, Rahul, etc. (Energy IP)

Fahd (Sagemcomm)

(CMDB)

Sathish (ICT RMR)

Sozone (Trilliant)

Align with PMO on the timelines as well for AMI source systems

For non-AMI whom to align with

Concerns on HES and NMS integration points

BCRM concerns on Meter Validation status non-availability