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Rahul Patidar				
Approved	Checked	Date	Rev	Reference
		06-02-2020	Ver1.0	

MOP of OPTICAL BER Alarm for Nokia Site

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Activity Description

This activity is for E2E troubleshooting and alarm clearance of OPTICAL BER alarm.

Attached is the details to be followed. As this need to be followed as guideline.

Alarm Name	1. Increased BER detected on the optical connection to Radio Module
Alarm Description	1. CELL OPERATION DEGRADED 2. BASE STATION SERVICE PROBLEM
Possible Causes	1. CPRI Cable faulty between the FSMF & Radio module. 2. SFP faulty at FSMF & Radio module. 3. FSMF & Radio module port faulty.

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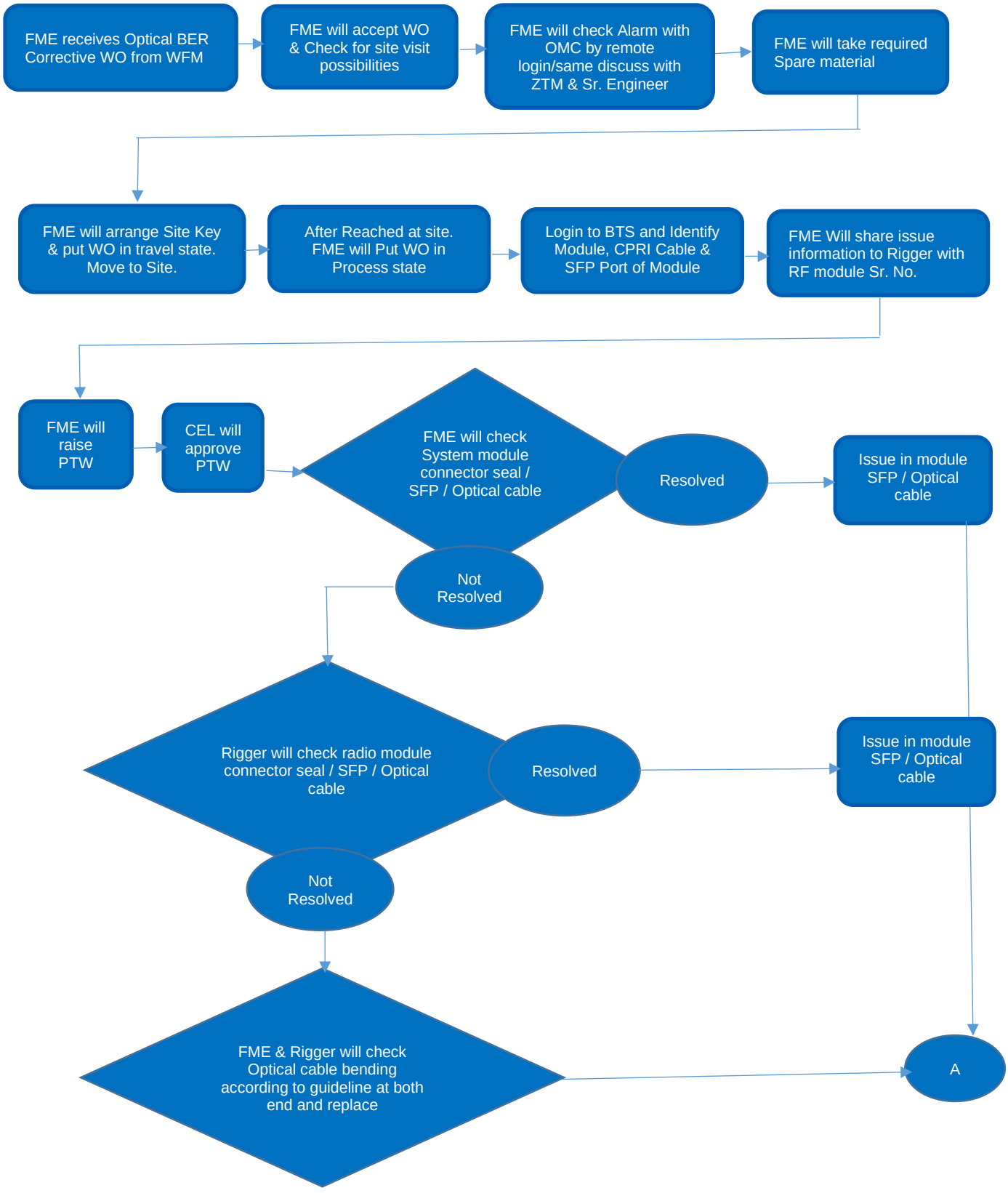
Flow Chart



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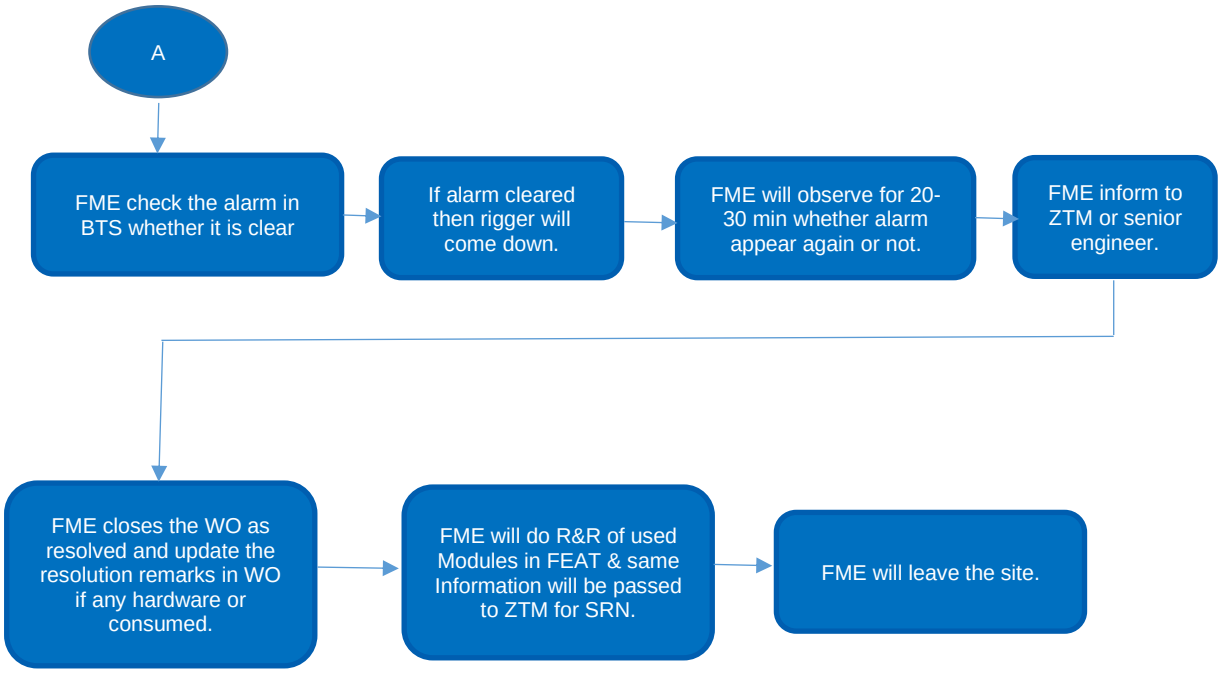
Flow chart continue:



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Activity Details

Optical BER Alarm Information & Checking for corrective action

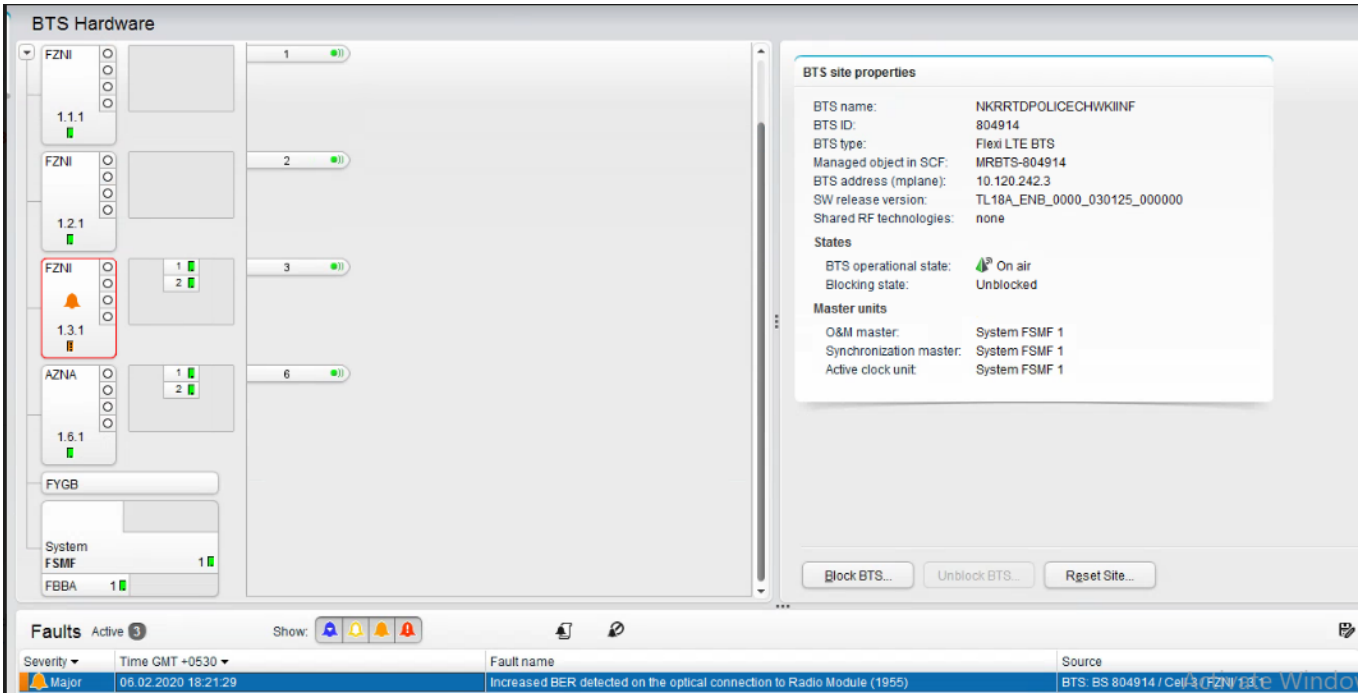
1. FME receive work order in WFM of optical BER alarm as a corrective work order
2. FME accept WO as received/WO acceptance time should be below then 45 Min...
3. FME check the alarm with help of OMC by remote login of BTS and discuss with ZTM and senior engineer about resolution
4. If possible FME visit site on same day otherwise will plan on next day (Need to verification Required Rigger can access Tower after reached site as per OHS Rules).
5. ZTM will suggest to take required Spare Material

Site Movement & Spare Arrangement

1. FME arrange key of site from respective Infra partner.
2. FME take required materials to resolve the alarm (As per Remote Login Observation & ZTM suggestion).
3. Now FME move to site and put WO in Travel state

Alarm issue Identification & Rectification

1. When FME reached at site, he put WO in progress state.
2. FME will Check the connector seal is properly mounted and firmly in place.



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3. FME will check SFP (Small Form Factor Pluggable) is properly connected to the FR module. If the SFP connection/mounting is incorrect, readjust the connection.
4. FME will check optical cable is properly connected to the SFP.
5. Check if the LED indicates the faulty SFP (connected to the System Module). Replace the SFP if faulty.
6. Clean the optical connectors at Radio module end. Reset the RF HW unit by following the block/unblock procedures, and then check if this solves the problem.

7. FME will share same information to rigger (RF Module Sr. No. & Port detail).
8. FME will ensure the PPE kit, work at height certificate, medical certificate, present healthy physical condition, site condition including hygiene.
9. Raise PTW request

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10. ZTM check the PTW and approve it.
11. Rigger will climb the tower and check below Points for actual issue identification.
12. Check if the connector seal is properly mounted and firmly in place.
13. Check if the SFP (Small Form Factor Pluggable) is properly connected to the FR module. If the SFP connection/mounting is incorrect, readjust the connection.
14. Check if the optical cable is properly connected to the SFP.
15. Clean the optical connectors at Radio module end. Reset the RF HW unit by following the block/unblock procedures, and then check if this solves the problem.

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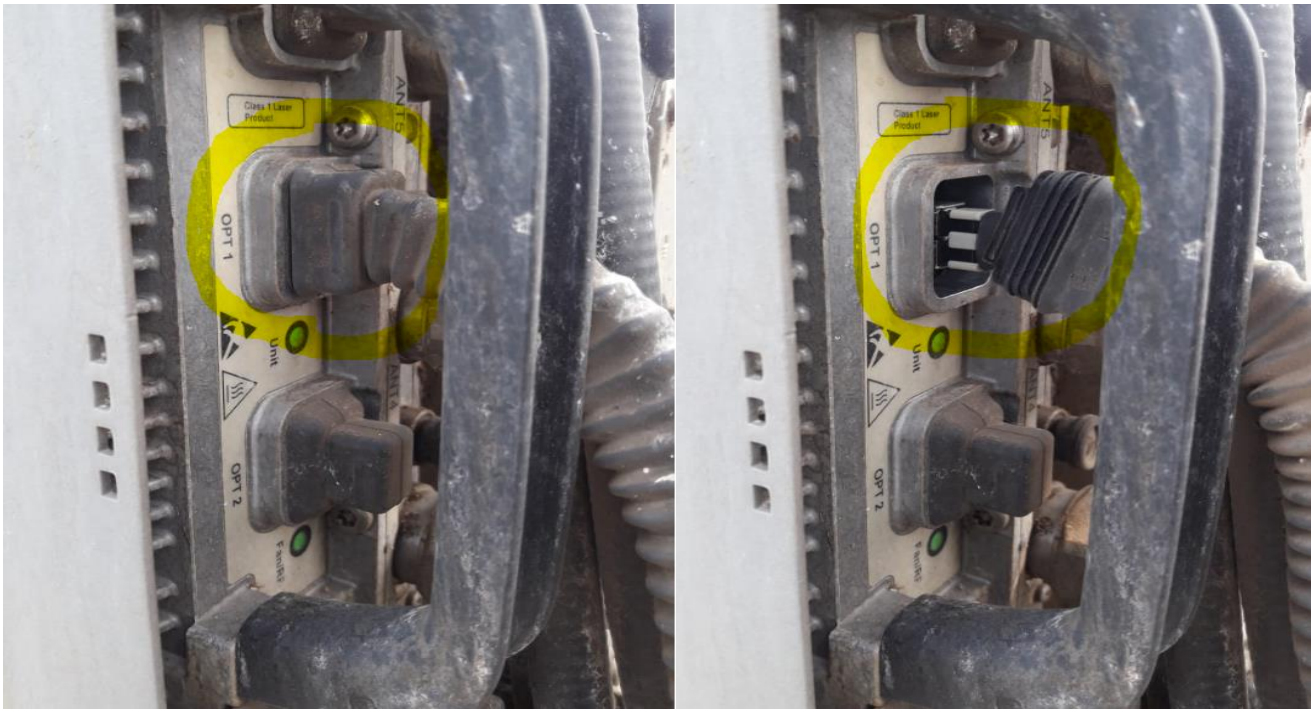

16. If alarm not clear, then checking optical connection at both ends.
17. Check if the optical cables are not over bent. If the radius of the cable bending exceeds the guidelines then replace the optical cable. Over bending optical fiber damages them, and can detach or damage the connectors.
18. OPTIONAL: Test the fiber cable (for example, measure the optical attenuation) from the System Module end). Check the measuring equipment documentation for details.
19. OPTIONAL: Test the fiber cable (for example, measure the optical attenuation) from FR Module end). Check the measuring equipment documentation for details.

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20. If the problem persists after executing steps: A, B, C, replace the Radio module.
21. If alarm is cleared, then rigger will come down
22. FME will observe for 20-30 min whether alarm appear again or not.
23. If alarm don't appear again it means alarm resolved, then FME inform to ZTM or Senior engineer about the same
24. FME closes the WO as resolved and update the resolution remarks in WO if any hardware or consumable material used.
25. FME will do R&R of used Modules in FEAT & same Information will pass to ZTM for SRN.
26. FME leave the site.