



State of Health Monitoring of the IMS Network

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CTBTO Preparatory Commission



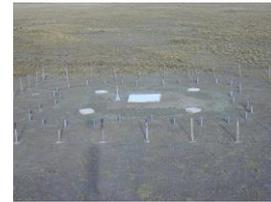
P4.5-333

ABSTRACTS

The IDC Operations Section makes daily use of operation tools to oversee and manage the Operation of the IMS network and the communications between the PTS and station operators. Some tools and their features are already available to station operators through Single-Sign-On (SSO). As part of the COVID-19 resilience enhancement, new features and functionalities are under development to facilitate station operators with notifications, monitoring, and troubleshooting of IMS station incidents and communication between PTS and station operators. Different monitoring tools, including the PTS centralized monitoring tools, the monitoring capabilities for station operators with a large number of stations, station operator tools for a single or a small number of stations, and the Station Standard Interface (SSI) at IMS stations, will complement each other. All these tools will make the monitoring of the IMS network more reliable and incident identification and resolution more efficient and thus contribute to achieve as the highest possible overall IMS network data availability, data quality, and data surety.



Station ID	Station Name	Status	Health	Alerts	Last Update
STATION 01	STATION 01	OK	GREEN	0	2021-01-01 10:00:00
STATION 02	STATION 02	OK	GREEN	0	2021-01-01 10:00:00
STATION 03	STATION 03	OK	GREEN	0	2021-01-01 10:00:00
STATION 04	STATION 04	OK	GREEN	0	2021-01-01 10:00:00
STATION 05	STATION 05	OK	GREEN	0	2021-01-01 10:00:00
STATION 06	STATION 06	OK	GREEN	0	2021-01-01 10:00:00
STATION 07	STATION 07	OK	GREEN	0	2021-01-01 10:00:00
STATION 08	STATION 08	OK	GREEN	0	2021-01-01 10:00:00
STATION 09	STATION 09	OK	GREEN	0	2021-01-01 10:00:00
STATION 10	STATION 10	OK	GREEN	0	2021-01-01 10:00:00



PTS: Supervision and Coordination of Network Operations

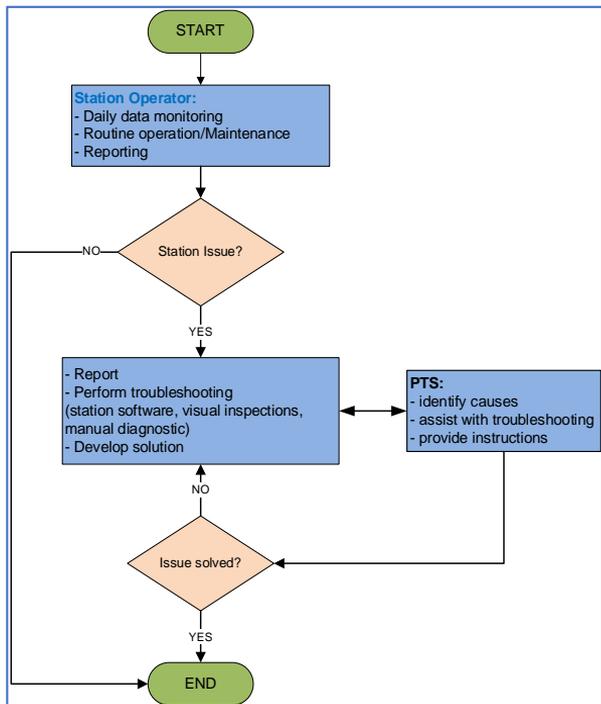
- Concluding agreements, arrangements, or contracts with SO;
- Coordinating operations through reporting and messaging system;
- Providing assistance as needed;

SO: Operation and Maintenance of Individual IMS Station

To ensure station is operating properly, meeting Data Availability, Data Quality, and Data Surety requirements;

- Filling the proper reports;
- Scheduling Preventive Maintenance;
- Providing timely troubleshooting;
- Conducting timely repair in case of Unscheduled data outage;
- Reporting any unauthorized access to the station facilities;

SO: Monitoring of Individual Station



Interfaces

SOH Tool

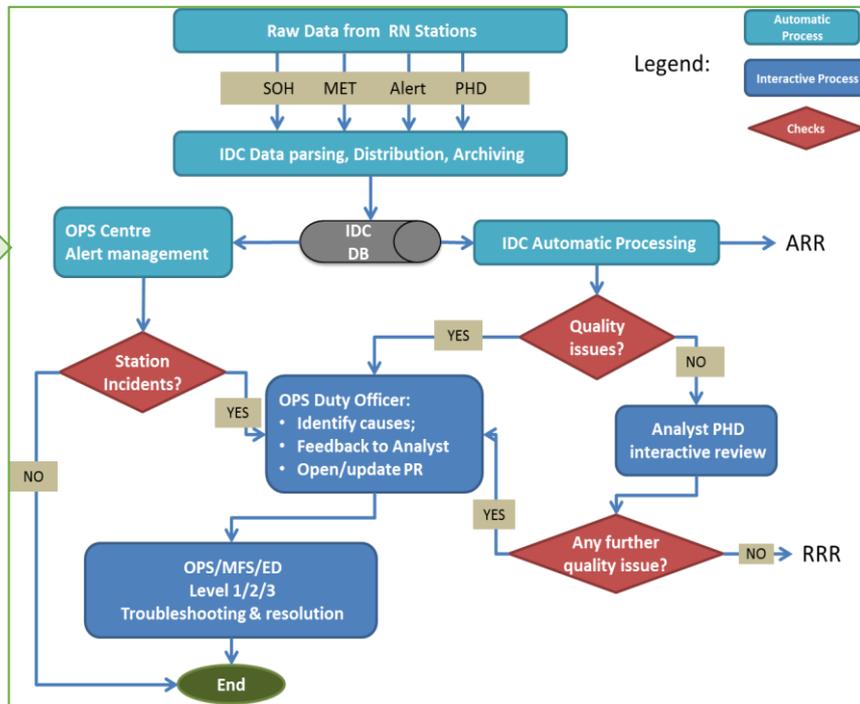
IRS

DOTS

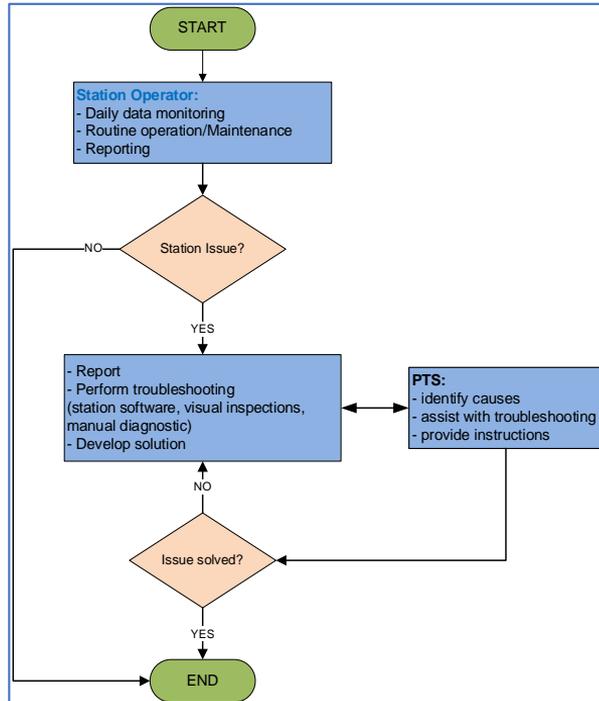
PR Tool

SOPET

PTS: Monitoring Process for the RN Network



SO: Monitoring of Individual Station



Interfaces

SOH Tool

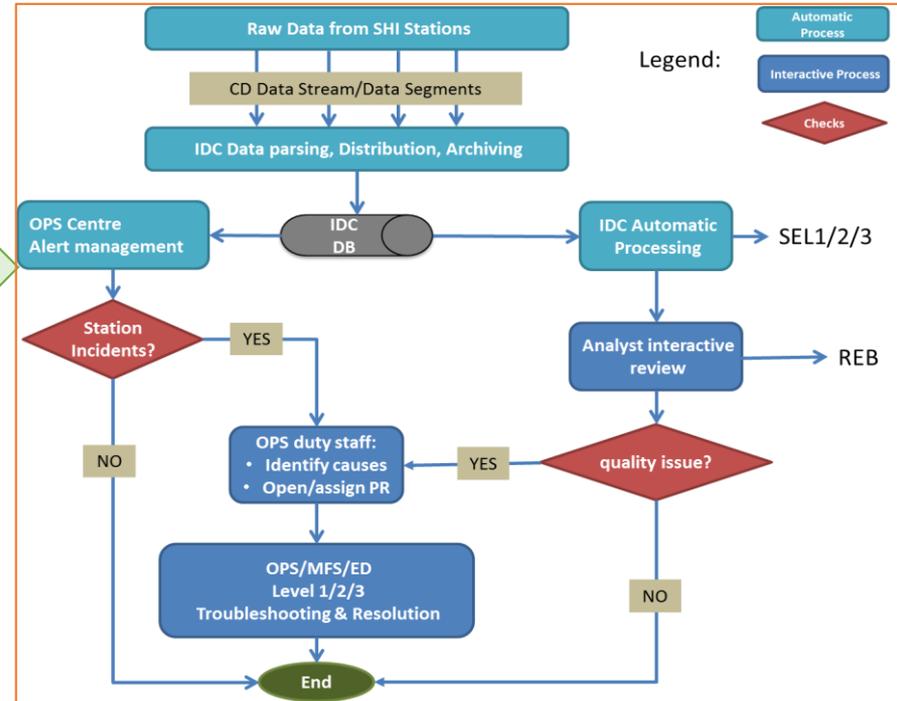
IRS

DOTS

PR Tool

SOPET

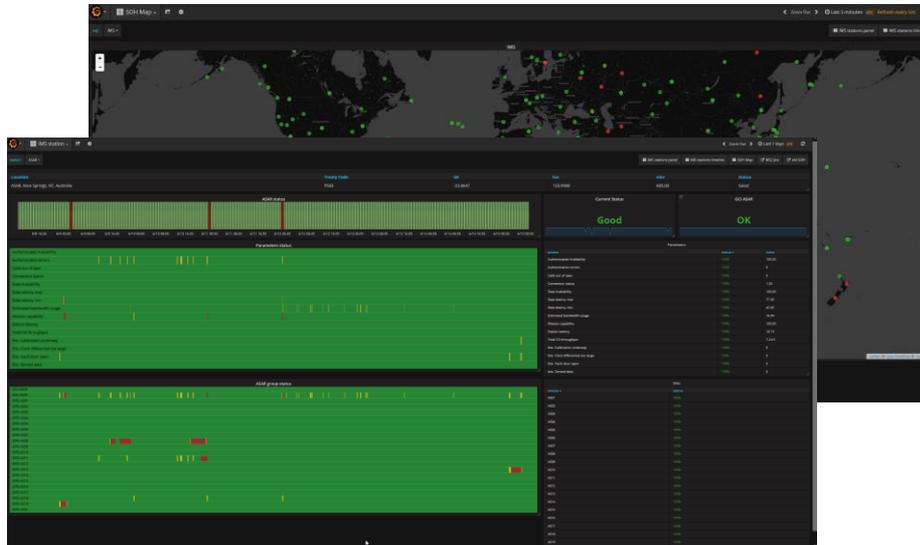
PTS: Monitoring Process for the SHI Network



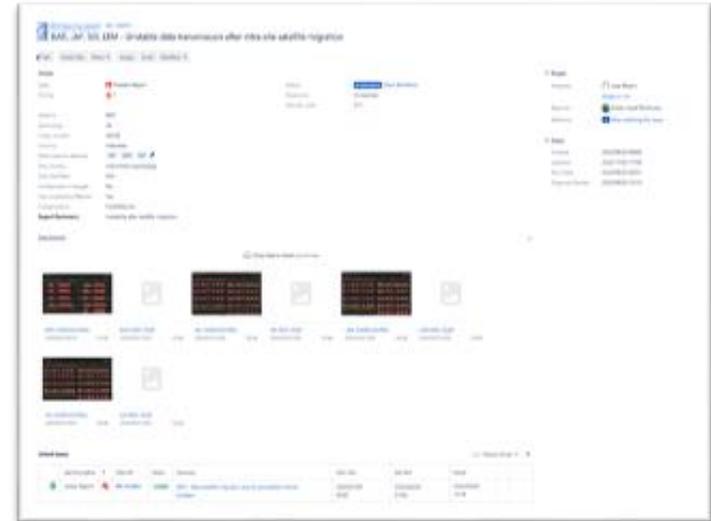
PTS Monitoring and Communication Tools

State of Health Monitoring (SOH)

This allows the Operations Centre to view the overall state of health of the IMS network and drill-down to individual components of stations.



IMS Reporting System – IRS



IRS:

- Maintenance Levels are introduced in accordance with IMS manual.
- Other improvements made to help cross-monitoring of the overall network status.

SOH:

- Alert Manager will be available to SO => facilitate SO to take proactive action
- Make other features available to SO => Allow SO to have more comprehensive overview of station status

SOPET:

- Provide access to SOPET through SSO:
- SO can create Operation report for all its stations in selected period.
- MR: O&M plans to be available to compile MRs to facilitate submission and review of MR.
- Create SSR through the interface.

Maintenance level **None** ▼ **Improvement to IRS**

1. Level 1: routine preventive maintenance and servicing; preliminary diagnosis of faults and corrective maintenance tasks of a minor nature, such as replacement of parts and assemblies.
2. Level 2: more extensive or complex corrective maintenance activities.
3. Level 3: complete overhaul or re-engineering of equipment.

SOH Alerts (SH)

No matching issues found.

SOH Alert Management

ID	Key	Station	Severity	Priority number	Status	Start Date	Created @	Last Modified	Link to Issue	Links	Alert Class	Country
4185-158871	MS2	AS	45993	WARNING	2021/06/15 07:00	2021/06/15 08:10	SOH-Station	MS-158702	PR already opened		Russian Fed.	
4185-158859	TSM4	AS	45987	WARNING	2021/06/12 20:45	2021/06/14 07:50	SOH-Station	MS-160771	PR opened		Namibia	
4185-158853	MS2	IS	514	WARNING	2021/06/11 23:35	2021/06/12 08:45	SOH-Station	MS-158387	PR already opened		China	
4185-152138	PS	AS	45242	WARNING	2021/06/07 19:40	2021/06/07 20:50	SOH-Station	MS-160161	PR already opened		Indonesia	
4185-156128	TORND	PS	9528	WARNING	2021/06/01 23:20	2021/06/02 08:50	SOH-Station	MS-154342; MS-160687	PR already opened		Niger	
4185-156038	MS2	PS	9521	WARNING	2021/06/01 03:00	2021/06/01 04:10	SOH-Station	MS-158430	PR already opened		Argentina	
4185-156017	MS2	PS	9513	WARNING	2021/05/31 16:00	2021/05/31 17:10	SOH-Station	MS-158462	PR already opened		China	
4185-155938	MS2	AS	45270	WARNING	2021/05/21 23:00	2021/05/22 08:10	SOH-Station	MS-157501	PR already opened		New Zealand	
4185-155233	MS6D	PS	9524	WARNING	2021/05/19 09:20	2021/05/19 10:50	SOH-Station	MS-149944	PR already opened		Korea	
4185-155233	MS2A	IS	9487	WARNING	2021/05/18 07:44	2021/05/19 16:00	SOH-Station	MS-160229	PR opened		South Africa	

Select Station Summary Report

Station code: Choose station from: **SOH SOH Stations** All Stations

Station operator:

Status:

Start month: 2020-06

End month: 2021-06

SSR Reviews of all stations for which has in EISR4

Station Code	SSID	Start Date	Last Date	Last reviewed	Status	Date of last action	View	Refresh	Print	Delete
MS08	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08A	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08B	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08C	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08D	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08E	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08F	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08G	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08H	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08I	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08J	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08K	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08L	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08M	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08N	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08O	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08P	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08Q	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08R	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08S	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08T	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08U	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08V	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08W	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08X	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08Y	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				
MS08Z	2021-09-18	2020-05-19	2021-05-18	logistic	Partially reviewed	2021-06-14				

- Inputs from station operators are appreciated for their requirements of new features to:
 - ❖ Facilitate notification, monitoring, troubleshooting of station incidents
 - ❖ Enhance communication between PTS and station operators
 - ❖ Create station performance report

Send recommendations to Support@ctbto.org with the subject “Inputs for monitoring tool development”

- Test New Features before moving to Product Version
 - ❖ Selected station operators will be contacted by PTS to test new features before publishing any new product version

(Thanks to station operators who are willing to support this project)