SnT 2025 8 SEPTEMBER ONLINE DAY 9 TO 12 SEPTEMBER AT HOFBURG PALACE, VIENNA & ONLINE
CTBT: SCIENCE AND TECHNOLOGY CONFERENCE

Operationalisation of the OSI Operations Support Centre

Julius Kozma, Kuang Feihong, Ryan Gonzalez, Gregor Malich, Rui Zuo

CTBTO PTS/OSI/PPO

CTBTO PREPARATORY COMMISSION | PUTTING AN END TO NUCLEAR EXPLOSIONS

INTRODUCTION AND MAIN RESULTS

The Operations Support Centre (OSC) is a crucial for effectively supporting an on-site inspection (OSI). The OSC concept and related operating procedures have evolved over the time since their initiation in 1998. The most recent update reflected the experience from the 2019 Build-Up Exercise on the OSI launch phase (BUE-L) and was tested during the 2024 Build-Up Exercise (BUE24) that covered the continuation period of an OSI. Observations and recommendations from BUE24 were summarized during OSI Workshop 26 (OSI WS-26) and are being implemented to prepare the OSC for an Integrated Field Exercise in 2026 (IFE26).

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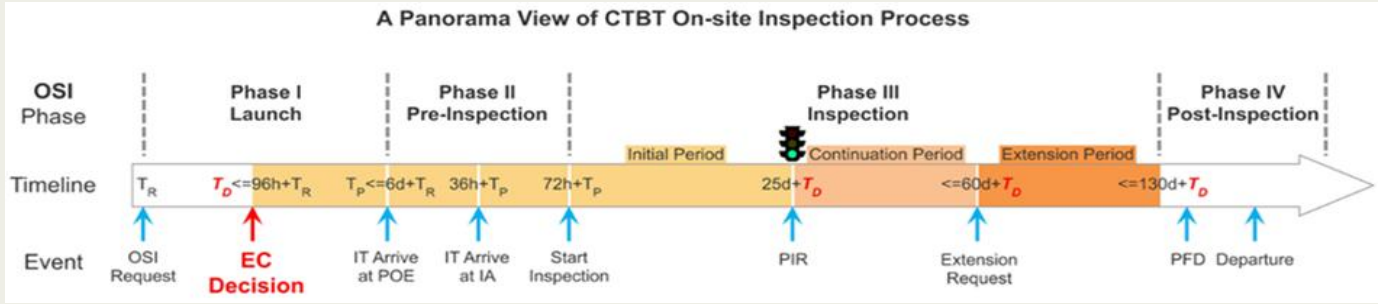
Concept and Organization of the OSI OSC

Overview:
The OSI Operations Support Centre (OSC) is an ad hoc functional infrastructure within the Technical Secretariat (TS) supporting the preparation and conduct of an OSI. As an integral part of the CTBTO Operations Centre (COPC) it provides support to the inspection team (IT) and to the Director-General and serves as uninterrupted point of contact between the TS and the IT.

The OSC consists of five key components:

- Situation Centre (SC) - the pivot of the OSC, the main point of contact (5 positions including the officer in charge (OIC) of the OSC)
- Technical Support Team (TST) – support in areas of inspection techniques, inspection progress and planning (5-7 positions)
- Operations Support Team (OST) - operational, personnel and logistical support (10 positions)
- Information Management Team (IMT) - information control and legal advice (3 positions)
- Liaison Officers (LOs) - primary points of contact in other Divisions (5 positions)

Location:
The OSC is primarily located within COPC and in nearby meeting rooms at the Vienna International Centre. The CTBTO Technology Support and Training Centre can be used as alternate location.



Staffing:

Standard staffing includes 30 positions, each with at least 2 alternates. Most positions are covered by CTBTO staff, although surrogate inspectors can be nominated for the TST. During the launch phase of the OSI the TST also includes up to 15 inspection team members for preparatory work.

Procedures:

OSI QMS documentation covering the OSC includes one Policy document, three standard operating procedures and seven work instructions.

Infrastructure:

The OSC uses state-of-art COPC visualization tools, various communication channels, and a secure local area network that hosts an OSC specific version of the Geospatial Information Management for OSIs (GIMO).

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New Developments Since BUE-L 2019

The November 2019 Build-Up exercise on the OSI launch phase confirmed the suitability of the OSC concept. Evaluation of the exercise emphasized the need to:

- Explore possibilities for enlarging the OSC space at the COPC,
- Review and update QMS documentation, including development of OSC activation guide,
- Formalize nomination of staff to OSC positions, and
- Improve internal communication tools within the OSC, including the development of an OSC Dashboard.

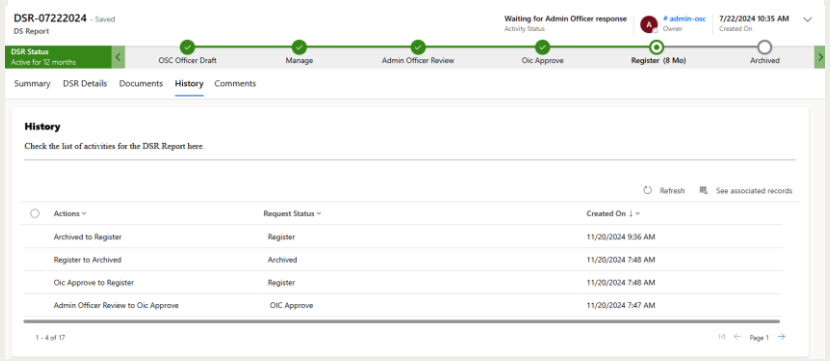
With the rapid increase and improvement of online tools (Microsoft 365, mainly Teams and SharePoint) the enlarging of COPC was deferred and new tools were developed: an OSC Dashboard, ticketing application and daily reporting application. The OSC has seen major improvements in its digital infrastructure.

Each OSC function is now supported by a role-specific Windows account with a dedicated email address, access to Office 365 applications, and integration into the CTBTO Teams and SharePoint environments. This enables secure and efficient communication, streamlined task management, and better information flow.

The OSC uses a dedicated SharePoint site accessible only to OSC accounts to organize and manage its operational documents and templates. Files are stored in structured folders aligned with functional areas and daily workflows, ensuring consistency across teams. Templates, reference materials, and live working documents are accessible through Teams-linked channels, allowing real-time collaboration and version control.

The ticketing app enables structured submission and tracking of support requests from the Inspection Team, either manually or via email. Tickets move through defined stages (initiation, in progress, and final), with features for task assignment, document uploads, and automated notifications.

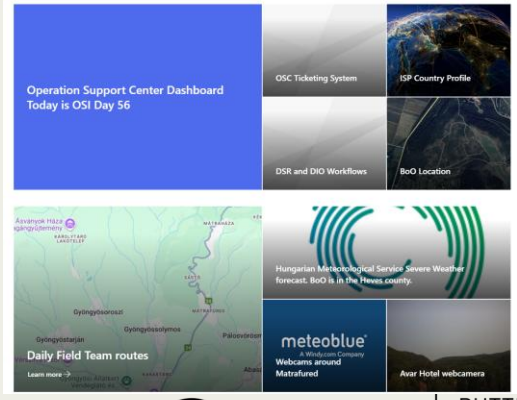
Reporting app interface highlighting document stages



The reporting app supports the daily reporting workflow by guiding the structured preparation of a Daily Information Overview (DIO) and a Daily Summary Report (DSR). These tools ensure consistency across teams, improve shift handovers, and accelerate the production of clear, consolidated daily reporting outputs.

The secure LAN used for handling OSI-related confidential information and operating specialized tools such as the OSC version of GIMO was recently updated. The upgrade included new networking hardware, the installation of dedicated user terminals, and the configuration of secure VPN tunnels between key locations.

OSC Dashboard



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OSI OSC during BUE 2024

In preparation for BUE24 the OSI Division conducted a one-week training for nominated OSC staff, ran two half-day online refresher sessions, prepared the OSC infrastructure and tested all processes in a dry run. Because BUE24 covered the continuation period of an OSI, the dry run replaced activation of the OSC.

The OSC started operating on 17 June 2024 and ran until the end of exercise on 4 July. A debriefing of OSC staff took place on 5 July. During BUE24:

- The OSC was fully operational from 09:00 until 17:00 every working day with daily management meetings at 09:00 and at 17:00. On weekends, the OSC was staffed with limited personnel.
- However, the OIC, TST Leader and OPSO were available on-call outside of working hours.
- The OIC spoke with the Inspection Team Leader twice per day and briefed in-person the Director of the OSI Division every working day
- The DIO was communicated to the IT every day before 11:00 depending on the availability of the content.
- The IT sent a Daily Summary Update and field mission plan for the next day at the end of each day. The mission plan was uploaded to the OSC GIMO to help monitoring the progress of inspection.

A duty roster of OSC staff was prepared and regularly maintained based on ad-hoc changes throughout the exercise. An extract of the roster is shown below for illustration purposes.

#	OSC Team	Role	Suggested name for BUE24, IFE25	Division	17	18	19	20	21	22	23	24	25	26	27	28
1	Officer in Charge	OSC OiC OSC 1	Gregor Malich	OSI												
1		OSC OiC OSC 2	Rui Zuo	OSI		AM										
2	Situation centre	SC, Ops Offr 1	Tatiana Boitsova	OSI									am			
2		SC, Ops Offr 2	Gregor Malich / Rui Zuo	OSI		AM				RZ			RZ	RZ	RZ	GM
3		SC, Comms 2	Grace Sseruwagi	OSI					am				pm			
4		SC, Physical security 1	Jian Li	OSI												
5		SC, Situational Awareness Offr 1	Ryan Gonzalez	OSI		AM										
5		SC, Situational Awareness Offr 2	Monika Primozic	OSI												
6	Technical Support Team	TST Leader	Harry Miley	OSI												
6		*TST GIMO officer*	*Monika Primozic/Ryan Gonzalez*	*OSI*		*RG*	*MP*	*MP*	*MP*			*RG*	*RG*	*MP*	*RG*	*MP*
7		TST member RN	Marina Voloshina	OSI												
8		TST member NG	Maria Angeles Benavente Ruiz /Artyom Botov	OSI		AM						MB	MB	am		
9		TST member VOB/MSIR	Nortin Titus	OSI								*pt*	*pt*	*pt*	*pt*	*pt*
10		TST member Seismic GPY	Ghassan Sweidan/ Waleed Olimat	OSI		GS	GS	GS	GS			GS	GS		WO	WO
11		TST member Non-Seismic GPY	Franck Audemard	OSI		AM										

The OSC location and procedures proved to be adequate. The OSC handled and successfully completed 28 IT requests for support. The requests included inter alia:

- Requests for satellite imagery
- Delivery of auxiliary equipment and shipment related documentation and
- Technical questions related to noble gas analysis issues and background predictions, etc. The OSC TST regularly consulted the IDC on IMS detections and noble gas dispersion models.

Several recommendations for improvement were elaborated during OSI Workshop-26, including:

(1) Refine the timeline of submission of the DIO.
(2) Streamline internal OSC structure, procedures and processes to speed up handling of the IT requests.
(3) Consider using Teams as an alternative means of OSC work outside of regular PTS working hours.
(4) Improve the GIS capabilities and related GIMO capabilities of the OSC.
(5) Improve the OSC Ticketing and Reporting applications and the OSC Dashboard.
(6) Clarify the extent of support and engagement expected during IFE26 from PTS Divisions and from PTS staff nominated to the OSC.
(7) Improve and enhance the OSC understanding of the status of the on-site inspection.
(8) Improve OSC information technology capability by adding monitors to OSC laptops.
(9) OSC training for IFE26 should be more individualized for OSC functions, more practice with OSC applications is needed.
(10) Calculations of expected xenon background within the inspection area are essential for successful OSI, the OSI Division together with IDC should develop the capability.