

Rolling list of upcoming workshops, training and exercises organized by the PTS

Disclaimer: The information was last updated on 28 February 2017. This list is updated on a regular basis.

For the latest up-to-date information, please consult the web sites for “Calendar of Events” (<http://www.ctbto.org/the-organization/calendar-of-events/>) and “Workshops, Training and Exercises” (<http://www.ctbto.org/the-organization/workshops-training-and-exercises/>)

2017

<i>Dates</i>	<i>Venue</i>	<i>Meeting/Event</i>	<i>Target audience/participants</i>	<i>Descriptions (Objectives, Deliverables, etc.)</i>	<i>Lead Division(s)</i>
6 – 8 March	VIC, Vienna	Expert Meeting on OSI Information Security	10 external participants	<p><u>Objective:</u></p> <ul style="list-style-type: none"> To further develop policy and operational application of information security measures in the context of an OSI. 	OSI
6 – 10 March	Uppsala, Sweden	Technical Training for Radionuclide Station Operators with SAUNA Equipment	<p>Technical staff of IMS radionuclide stations directly responsible for the operation and maintenance of SAUNA noble gas systems, preferably with good experience.</p> <p>Invited States Signatories should nominate participant(s) who are Station Operators involved in the operation and maintenance of the following stations: AUX04, AUX09, BRX11, CLX19, JPX38, MXX44, NZX46, NOX49, SEX63, GBX68, CNX20, CNX22.</p>	<p><u>Objectives:</u></p> <ul style="list-style-type: none"> To provide IMS station operators with the required knowledge and technical understanding of SAUNA noble gas monitoring systems in order to perform operations and maintenance tasks. <p>The agenda includes the following:</p> <ul style="list-style-type: none"> ➤ Introduction on the noble gas system; ➤ Preventive maintenance; ➤ SAUNA detector system principles; ➤ SAUNA detector calibration; ➤ Randon timing trouble-shooting. 	IDC
6 – 10 March	Poissy, France	Technical Training for Radionuclide Stations Operators with SPALAX Equipment	<p>Station operators who are responsible for daily operation and maintenance of SPALAX noble gas monitoring systems at IMS stations.</p> <p>Invited States Signatories should nominate participant(s) who are Station Operators involved in the operation and maintenance of the following stations: CAX16, CAX17, CMX13, DEX33, FRX27, FRX29, FRX30, FRX31, MNX45, PAX50</p>	<p><u>Objectives:</u></p> <ul style="list-style-type: none"> To provide IMS station operators with the required knowledge and technical understanding of SPALAX noble gas monitoring systems in order to perform operations and maintenance tasks. <p>The agenda includes the following:</p> <ul style="list-style-type: none"> ➤ SPALAX process analysis and diagnosis; ➤ HP Ge detector; ➤ Thermal conductivity detector (TCD) and SPALAX electronics; ➤ Compressor 	IDC

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13 March – 7 April	VIC, Vienna	NDC Capacity Building: NDC Waveform Analyst Training Course	<p>Participants profile includes:</p> <ul style="list-style-type: none"> • NDC technical staff/authorized users (preferably Principal User or Regular User); • Experience in waveform data analysis and/or similar experience related to nuclear test-ban verification; • Seismologists with an advanced degree who operate or have access to regional and local seismic network data and the means of processing that data to provide accurate phase pick information; • Linux background and some SQL-experience. <p>To be considered for the Course, participants should successfully complete E-Learning Training Course on NDC Capacity Building: Access and Application of IMD Data and IDC Products.</p>	<p><u>Objectives:</u></p> <ul style="list-style-type: none"> • To enhance understanding of the roles of National Data Centres (NDCs) in the verification regime; • To build and/or improve the NDC capabilities; • To provide participants with sufficient knowledge for accessing and using IMS data and IDC products; and • Provide practical experience in analyzing IMS data. <p>The programme includes the following:</p> <ul style="list-style-type: none"> ➤ Methods to Access IMS data and IDC products; ➤ NDC support/performance reports; ➤ IMS data, acquisition, processing and storage; standard software package; ➤ Necessary NDC's resources to process IMS data and analyse IDC products; ➤ Practical sessions on data and products access, and use of standard software packages. 	IDC
3 – 7 April	Austria	Workshop for Radionuclide Laboratories	<p>Participants should be from the State Signatories hosting the 16 radionuclide laboratories and non-IMS noble gas capable laboratories. Participants from vendors should have direct relationship with the laboratory activities.</p> <p>Participants are expected to submit an abstract for an oral presentation on the topics of the workshop.</p>	<p><u>Objectives:</u></p> <ul style="list-style-type: none"> • To discuss and address developments and issues pertaining to laboratory certified operations, Proficiency Test Exercises (PTEs) for particulate samples and noble gas (NG) intercomparison exercises, certification, surveillance assessment and measurements; • To share operational experiences and lessons learned towards quality improvement; • To discuss advances in gamma spectrometry and noble gas measurements; <p>The topics for the Workshop include the following:</p> <ul style="list-style-type: none"> ➤ Laboratory operations ➤ Proficiency Test Exercises ➤ Laboratory techniques and developments ➤ Surveillance assessment and certification issues ➤ Noble gas measurements by laboratories ➤ Advances in commercial products related to CTBTO verification needs ➤ Knowledge-sharing session for uncertified noble gas laboratories 	IDC

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20 – 21 April	VIC, Vienna	Technical Meeting on SHI Software Engineering at the IDC	<p>Experts responsible for the software development for waveform monitoring at the National Data Centres.</p> <p>Experts involved in software development for environmental monitoring applications, particularly in waveform methods, including signal processing, user interfaces, database systems.</p> <p>Participants should have in-depth knowledge of at least one aspect of SHI data processing at the IDC.</p>	<p><u>Background</u></p> <p>In January 2014, in parallel with the first phase, the IDC initiated a second phase of its Reengineering program that considers the overall architecture of SHI applications and aims to produce, by the first quarter of 2017, the foundation for a new architecture for SHI applications.</p> <p>Reengineering Phase 2 (RP2) follows system design techniques based on UML (Unified Modelling Language) and RUP (Rational Unified Process). During the Inception and Elaboration stages of the project, several deliverables were created. Baseline and current versions of the deliverables are being made available on the Expert Communication System Platform under https://ecs.ctbto.org/discussion/1060.</p> <p>Technical meetings are periodically held to provide a forum for experts from Member States to review and give feedback on RP2 deliverables.</p> <p><u>Objectives</u></p> <p>This technical meeting marks the completion of Phase 2 of IDC Reengineering and will focus on:</p> <ul style="list-style-type: none"> • Reviewing selected deliverables completed since the last technical meeting, such as the user interface storyboards and the software architecture document; • Presenting the results of prototyping work that explored the inclusion of NDC-contributed software into the reengineered infrastructure; • Discussing technical and scientific issues arising from requirements identified RP2; • Discussing possible next steps following the end of RP2. 	IDC
2 – 5 May	Austria	Technical Training for PKI Operators for RN and Waveform Stations	<p>Nominated PKI Operators at IMS stations</p> <p>Invited States Signatories should nominate participants who are PKI operators at the following stations: AS001, AS002, PS08, PS09, AS016, RN14, RN16, RN17, HA03, IS14, PS12, PS13, IS15, IS16, RN20, RN21, RN22, IS19, AS028, AS057, AS058, AS59, RN45, RN46, RN47, RN50, RN51, HA07, IS42, RN53, PS32, PS33, PS34, PS36, IS43, IS44, IS45, IS46, RN54, RN56, RN58, RN59, RN60, RN61, RN64, RN65.</p>	<p><u>Objective</u></p> <ul style="list-style-type: none"> • To provide PKI Operators with the basic knowledge and technical understanding on data authentication, Public Key Infrastructure (PKI) concepts and terminology and data surety, how to generate key pairs and submit certificate requests, and how to retrieve and install certificates for radionuclide and waveform station systems such as SSI, Guralp, Nanometrics. <p><u>Agenda</u></p> <ul style="list-style-type: none"> ➤ Basic Information on Data Authentication ➤ Public Key Infrastructure (PKI) Concepts and Terminology ➤ Data Surety ➤ Command and Control ➤ PKI Portal introduction 	IDC

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2 – 5 May	Austria	Technical Training for PKI Operators for RN and Waveform Stations (continued)	PKI Operators of IMS stations not listed above may also apply. Their participation will be subject to availability of places in the training course.	<u>Agenda (continued)</u> <ul style="list-style-type: none"> ➤ Hands-On: <ul style="list-style-type: none"> - Generate key pairs and submit certificate request; - Retrieve and install certificates for: (a) SSI software and (b) Guralp and Nanometrics digitizers. 	IDC
15 – 19 May	Austria	3rd Training Cycle Deployment and Infield Operations Support	80 external participants	<u>Objective:</u> <ul style="list-style-type: none"> • To train surrogate inspectors on the launch phase of an OSI and the establishment and operation of the Base fo Operations in field conditions. 	OSI
7 – 9 June	VIC, Vienna	Expert Meeting on OSI Documentation Management	10 external participants	<u>Objective:</u> <ul style="list-style-type: none"> • To develop a systematic programme for the development and revision of OSI QMS documents. 	OSI
12 – 23 June	VIC, Vienna	Technical Course on NDC Capacity Building: Access and Analysis of Waveform IMS Data and IDC Products	Participants profile includes: <ul style="list-style-type: none"> • NDC technical staff/authorized users (preferably Principal User or Regular User); • Experience in waveform data analysis and/or similar experience related to nuclear test-ban verification; • Seismologists with an advanced degree who operate or have access to regional and local seismic network data and the means of processing that data to provide accurate phase pick information; • Linux background and some SQL-experience; • Having passed the NDC e-Learning course. 	<u>Objectives</u> <ul style="list-style-type: none"> • To understand the roles of National Data Centres in the verification regime; • To build and/or improve the National Data Centre capabilities; • To provide participants with sufficient knowledge for accessing and using IMS data and IDC products; and • Provide practical experience in analyzing IMS data. 	IDC
19 – 23 June	VIC, Vienna	Technical Training for Station Managers of IMS Stations Operating under PCA Contracts	Individuals with managerial and planning responsibility at certified IMS stations with PCA contracts in place or PCA contracts to be concluded in 2017	<u>Objectives</u> <ul style="list-style-type: none"> • To provide Station Managers with the knowledge and technical understanding of the PTS procurement process, how to initiate a change in the station budget, and how to plan for operations and maintenance at IMS stations under PCA contracts. 	IDC

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19 – 23 June	VIC, Vienna	Technical Training for Station Managers of IMS Stations Operating under PCA Contracts (continued)		<u>Agenda</u> <ul style="list-style-type: none"> ➤ Overview of operations and maintenance planning at IMS stations; ➤ Relevant financial rules of the PTS and the approval process; ➤ What is included in the PCA contract; ➤ Managerial responsibilities under the PCA contract; ➤ Unscheduled maintenance procedures; ➤ Reporting via IRS and station summary reports; ➤ Station specific documentation 	IDC
26 – 30 June	Hofburg Palace, Vienna	CTBT: Science and Technology 2017	Scientists and technologists, science administrators, academics, representatives to the CTBTO's policy making organs, representatives of agencies involved in research and development in areas potentially relevant to the Treaty's verification regime and media representatives.	<u>Conference goals:</u> <ul style="list-style-type: none"> • To enlarge the scientific community engaged in test-ban monitoring, including among young scientists; • To promote the wider scientific application of data that are used for test-ban verification; • To enhance the exchange of knowledge and ideas between the CTBTO and the broader scientific community; • To present to the scientific community the needs of nuclear test monitoring and verification. <u>Themes addressed:</u> <ul style="list-style-type: none"> ➤ The Earth as a complex system; ➤ Events and nuclear test sites; ➤ Advances in sensors, networks and processing; ➤ Performance optimization; ➤ Monitoring for nuclear explosions in a global context. 	IDC
3 – 4 July	VIC, Vienna	Technical Meeting on the IDC Validation and Acceptance Test Plan	<p>The meeting is aimed towards scientists, engineers and other persons who have technical expertise in one of the four IMS technologies, the functions of the IDC and in performance monitoring and testing. The participants are expected to provide their technical input to the IDC Validation and Acceptance Test Plan.</p> <p>States Signatories are expected to nominate experts who will provide substantive inputs to the plan.</p>	<u>Objectives</u> <ul style="list-style-type: none"> • To continue the process of completing the IDC Validation and Acceptance Test Plan; the focus for this particular meeting will be on reviewing the changes made since the December 2016 meeting and to continue improving the test content; progress in this regard will be presented at WGB 49. 	IDC

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3 – 14 July	VIC, Vienna	Training Course on NDC Capacity Building: Access and Analysis of Radionuclide IMS Data and IDC Products	<p>Participants profile includes:</p> <ul style="list-style-type: none"> • NDC technical staff/authorized users (preferably Principal User or Regular User); • Experience in radionuclide data analysis and/or similar experience related to nuclear test-ban verification; and • Linux background and some SQL-experience; • Having passed the e-Learning course. 	<p><u>Objectives</u></p> <ul style="list-style-type: none"> • To understand the roles of National Data Centres in the verification regime; • To build and/or improve the National Data Centre capabilities; • To provide participants with sufficient knowledge for accessing and using IMS data and IDC products; and • To Provide practical experience in analyzing IMS radionuclide data. 	IDC
7 – 11 August	Vietnam	East Asian National Data Centre Regional Workshop	<p>Invited States should nominate participant(s) who are involved in the use of IMS Data and IDC Products (waveform and radionuclide). Preference will be given to NDC operators and NDC's customers. This Workshop is dedicated to the following countries: Australia, China, Indonesia, Japan, Republic of Korea, Mongolia, Philippines, Russian Federation, Thailand, United States of America, and Vietnam.</p>	<p><u>Objectives</u></p> <ul style="list-style-type: none"> • To strengthen the knowledge of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and the work of the Preparatory Commission; • To further build-up the capacity of State Signatories of the CTBT to participate in the implementation of the verification regime and assess how participants are making use of IMS data and IDC products; • To encourage National Data Centres within the region to undertake a joint exercise for the analysis of waveform and radionuclide data and compare their results; and • To promote the exchange of experience and expertise among the NDCs. 	IDC
4 – 8 September	Austria	Technical Training for Station Operators of Manual Radionuclide Stations	<p>Invited States Signatories should nominate participant(s) who are station operators involved in the operation, maintenance and repair. In an effort of to ensure that relevant technical training is provided to the appropriate person, the invited States Signatories should nominate individuals who are directly related to their IMS facility.</p> <p><u>Target stations:</u> RN01, RN03, RN04, RN05, RN06, RN07, RN08, RN09, RN10, RN13, RN14, RN16, RN17, RN20, RN21, RN22, RN23, RN26, RN27, RN28, RN29, RN30, RN31, RN32, RN39, RN42, RN43, RN45, RN46, RN47, RN50, RN51, RN52, RN64, RN67, RN68</p>	<p><u>Objectives</u></p> <ul style="list-style-type: none"> • To provide station operators with the basic knowledge and technical understanding on the operations, maintenance and management of a manual radionuclide station and, more specifically, to provide hands-on training for the various operational and maintenance procedures. 	IDC

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4 – 15 September	VIC, Vienna	Training Course on NDC Capacity Building: Access and Analysis of Radionuclide IMS Data and IDC Products	<p>NDC technical staff and authorized users (preferably Principal User or Regular User).</p> <p>Participants should have:</p> <ul style="list-style-type: none"> - experience in radionuclide data analysis and/or similar experience related to nuclear-test-ban verification; and - Linux background and some SQL experience. <p>Passing the e-Learning course is a prerequisite but not mandatory for the selection</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • To understand the roles of NDCs in the verification regime; • To build and/or improve NDC capabilities; • To provide participants with sufficient knowledge for accessing and using IMS data and IDC products; and • To provide practical experience in analyzing IMS radionuclide data. <p>The agenda of the training course will include:</p> <ul style="list-style-type: none"> ➤ Methods to access IMS data and IDC products; ➤ NDC support/performance reports; ➤ IMS data, acquisition, processing and storage: standard software packages; ➤ Necessary NDC's resources to process IMS data and analyze IDC products; ➤ Practical sessions on data and products access, and use of standard software packages, for processing and analysis of particulate and noble gas radionuclide data as well as post processing of atmospheric transport modelling output. 	IDC
2 – 13 October	VIC, Vienna	Training Course on NDC Capacity Building: Access and Analysis of Radionuclide IMS Data and IDC Products	<p>NDC technical staff and authorized users (preferably Principal User or Regular User).</p> <p>Participants should have:</p> <ul style="list-style-type: none"> - experience in radionuclide data analysis and/or similar experience related to nuclear-test-ban verification; and - Linux background and some SQL experience. <p>Passing the e-Learning course is a prerequisite but not mandatory for the selection</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • To understand the roles of NDCs in the verification regime; • To build and/or improve NDC capabilities; • To provide participants with sufficient knowledge for accessing and using IMS data and IDC products; and • To provide practical experience in analyzing IMS radionuclide data. <p>The agenda of the training course will include:</p> <ul style="list-style-type: none"> ➤ Methods to access IMS data and IDC products; ➤ NDC support/performance reports; ➤ IMS data, acquisition, processing and storage: standard software packages; ➤ Necessary NDC's resources to process IMS data and analyze IDC products; ➤ Practical sessions on data and products access, and use of standard software packages, for processing and analysis of particulate and noble gas radionuclide data as well as post processing of atmospheric transport modelling output. 	IDC

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16 – 19 October	Belgium	Technical Training for Radionuclide Station Operators with Canberra Equipment	<p>Invited States Signatories should nominate participants who are station operators involved in operation and maintenance of the following stations: RN23, RN26, RN39, RN43, RN45, RN50, RN52</p> <p>Applications from other stations using Canberra detector equipment may be considered on a space available basis. In an effort to ensure that relevant technical training is provided to the appropriate person, please nominate individuals that are directly related to the IMS facility.</p>	<p><u>Objective</u></p> <ul style="list-style-type: none"> To provide hands-on training and practical lessons to Station Operators on the operation, maintenance and repair of the Canberra Gamma Detector System manufactured by Canberra Industries Inc. <p><u>Agenda</u></p> <ul style="list-style-type: none"> ➤ Detector system theory <ul style="list-style-type: none"> - Fundamentals of electromagnetic radiation. - What is a HPGe semi-conductor detector and how does it work - CTBTO specific preamplifier, why and what is different - Basic functions (gain, offset, pole zero, shaping time) ➤ Genie2k basic operation <ul style="list-style-type: none"> - Hardware set-up - Calibrations ➤ Hands-on training <ul style="list-style-type: none"> - Safe handling of detector (unpacking, packing, installing) - Manipulating the electronics (connecting, high voltage, etc.) - Detector initial set-up and calibration - Hands-on training with the available hardware from individual items up to a full working gamma spectroscopy chain, calibrated in energy, shape and efficiency. - Detector cooling system operation and routine maintenance - Thermal cycling and oscilloscope exercise - Trouble-shooting detector, MCA and cooling system, including preamplifier replacement - Improving detector resolution, including earth loops and how to avoid/cure them 	IDC
25 – 27 October	Oak Ridge, United States	Technical Training for Radionuclide Station Operators with ORTEC Systems (TT ORTEC Training)	<p>Invited States Signatories should nominate participant(s) who are Station Operators involved in the operation, maintenance and repair of stations with ORTEC gamma detector systems manufactured by AMETEK.</p> <p>Nominated individuals should be directly related to the IMS facility.</p>	<p><u>Objective</u></p> <ul style="list-style-type: none"> To provide hands-on training and practical lessons to Station Operators on the operation, maintenance and repair of the ORTEC gamma detector system manufactured by AMETEK. 	IDC

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30 October – 3 November	Fairfax, USA	Technical Training for Radionuclide Station Operators with RASA Systems	<p>Invited State Signatories should nominate participant(s) who are Station Operators involved in the operation and maintenance of RASA systems.</p> <p>Nominated individuals should be directly related to the IMS facility.</p>	<p><u>Objective</u></p> <ul style="list-style-type: none"> To provide hands-on training and practical lessons to Station Operators on the operation, maintenance and repair of the RASA equipment. 	IDC
6 November – 1 December	VIC, Vienna	NDC Capacity Building: NDC Waveform Analyst Training Course	<p>Participants profile includes:</p> <ul style="list-style-type: none"> NDC technical staff/authorized users (preferably Principal User or Regular User); Experience in waveform data analysis and/or similar experience related to nuclear test-ban verification; Seismologists with an advanced degree who operate or have access to regional and local seismic network data and the means of processing that data to provide accurate phase pick information; Linux background and some SQL-experience. To be considered for the Course, participants should successfully complete E-Learning Training Course on NDC Capacity Building: Access and Application of IMD Data and IDC Products. 	<p><u>Objectives:</u></p> <ul style="list-style-type: none"> To enhance understanding of the roles of National Data Centres (NDCs) in the verification regime; To build and/or improve the NDC capabilities; To provide participants with sufficient knowledge for accessing and using IMS data and IDC products; and Provide practical experience in analyzing IMS data. <p>The programme includes the following:</p> <ul style="list-style-type: none"> ➤ Methods to Access IMS data and IDC products; ➤ NDC support/performance reports; ➤ IMS data, acquisition, processing and storage; standard software package; ➤ Necessary NDC's resources to process IMS data and analyse IDC products; ➤ Practical sessions on data and products access, and use of standard software packages. 	IDC
20 – 24 November	VIC, Vienna	Technical Training for Station Operators from Auxiliary Seismic Stations (non-parent network stations)	<p>Priority will be given to operators of specific stations targeted for this training. The countries hosting these stations receive this announcement directly through official channels. Invited States Signatories should nominate participant(s) who are Station Operators involved in the operation, maintenance and repair. Nominated individuals should be directly related to the IMS facility.</p>	<p><u>Objective</u></p> <ul style="list-style-type: none"> To provide station operators with the basic knowledge and technical understanding of the operations, maintenance and management of an IMS station using waveform technology and, more specifically, to provide hands-on training for the various operational and maintenance procedures. 	IDC

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27 November – 1 December	To be announced	INGE Noble Gas Workshop	The workshop is aimed towards all scientists, engineers and other persons involved in Noble Gas measurements related to the verification of the CTBT.	<u>Objective</u> <ul style="list-style-type: none"> To present and evaluate the most recent advances in noble gas monitoring technology. 	IDC