

Webinar: Introduction to PCBs and Development of Comprehensive PCB Inventories for National Implementation Plans**Date:** October 28, 2024**Time:** 14:00-16:00 CET**Hosted by:** GGKP**Speaker:** Dr. Thomas Paramanandam (Additional Director (rtd) Central Power Research Institute)**Panelist:** Urs K. Wagner (Senior International PCB & Asbestos Expert, ETI Environmental Technology Ltd., Switzerland)

#	Question	Answer
1	Does the inventory for the NIP Update include testing?	Yes, both testing the samples from the transformers which are in operation, and which are idle (decommissioned/out of operation) should be done.
2	When talking about PCB conc lower than 50ppm, do you mean the sum of all congeners? Which congeners should be calculated for the threshold of 50ppm? All of them, only indicator ones, or only dioxin like ones	From the inventory, the PCB congeners identified are 1258 and 1260 types indicating around 58 and 60 congeners are present. However, all the congeners found in the transformers / capacitors shall be taken into account.
3	Is there any plus or minus option while we apply the assumption rule?	For preliminary screening, it is important to make sure whether this equipment has a factory nameplate. If not, then it should be checked whether it was manufactured after 1993, and if yes it might have a PCB-free certificate from the manufacturer or other record. If not, it should be sampled. Otherwise, if there are no details about transformers/capacitors available, it can be assumed that it is PCB transformers. Further, the presence of PCBs can be verified through GC-ECD analysis.
4	Why did you find PCB in fertilizers?	Transformers installed in the fertilizer industry can have PCBs.
5	What is the approach of including the sealed units in the inventory? What is the approach of including the sealed units in the inventory as they have no sampling points and breaking into them will render them dysfunctional?	You may check the information on the nameplate of the equipment itself or from the maintenance records. That will help to identify whether it contains PCBs or not. If there is no information available, this equipment can be assumed as PCB containing equipment and included in the inventory. Assumption rule yet doesn't exclude further need for PCB analysis.
7	Merci pour la présentation, je n'ai pas compris les techniques d'analyse des PCB dans les transformateurs	Gas chromatography (GC) with electron capture detector (GC-ECD) is used for detecting PCBs. This method is more reliable and accurate.
8	Est ce qu'on est obligé de suivre toutes les étapes d'analyse des PCB pour confirmer le statut d'un transformateur?	To confirm, it is better you follow all the steps. Just by analyzing PCBs using Gas chromatography with electron capture detector (GC-ECD) one can easily confirm the presence of PCBs.
9	Comment utiliser les tubes pour prélever les échantillons à chaud ? Pour l'utiliser, faut-il mettre hors tension le Transformateur ; quand et comment l'utiliser ?	There is no need to turn off the transformers for sampling. Simple tubes with proper lid are required while sampling. Please make sure to avoid the spillage/leak and use proper protective equipment while sampling. For more details please kindly refer to the SC guidance on PCB inventories: <i>(UNEP, Guidance for Development of PCB Inventories and Analysis of PCB, 2023, p.19)</i> "Usually, transformers are sampled when they are in use and thus when they are electrically alive. Relevant protective measures and safety regulations must be known and applied at all times! If the oil quality is to be tested, the following steps have to be considered: • Sampling via drain tap: Drain off about 1 L of oil first in order to clean the drain from particles which might have accumulated in that area;

		<ul style="list-style-type: none"> • Amount of oil required: 0.2 L to 1 L (in case of oil quality analysis); • Leave the oil for 24 hours, in order to allow particles and water to settle; • Take sample from the upper third of the oil for the analysis using a pipette; • Return the drained oil back into the transformer (only if the oil filling cap is out of reach of the high voltage and oil is without heavy impurities, otherwise shut off the transformer before refilling oil)."
10	Quels sont les protocoles d'échantillonnage et d'analyse des système ouvert ?	It is easy to sample from the open systems. Analysis of PCBs vary depending on where the PCB is present. If you are testing PCBs in soil, paint, varnish, sealants etc., follow different test methods for each matrix.
11	Peut-on avoir le classement de ces technologies en fonctions de Meilleurs Technologies ?	Non-combustion technologies which are environmentally sound are considered the most preferable technologies.
12	Bonsoir à tous, merci pour la présentation, j'aimerais savoir comment vous aviez les sites contaminés au PCB	There are many ways to identify contaminated transformers/sites. If there is a leak in the PCB filled transformers, it would have been filled with other oils, thereby it is assumed to be contaminated PCB transformers instead of pure PCB transformers. Another way is that, only one piece of equipment would have been used for carrying out condition monitoring by filtration for all the transformers including PCB filled transformers, then all transformers are contaminated. There are transformers having PCB contamination ranging from 50-10,000 ppm.
13	Merci Dr Thomas pour la présentation pouvez-vous nous donner le coût moyen de chaque méthode ?	The information on the costs depends on the specific case of each country and may vary case by case.