



Date: 10/07/19

UNIDO CLARIFICATION NOTE no. 2

Request for Proposal (RFP) No. 1100124534

**PROVISION OF EQUIPMENT AND SUPPLIES AND RELATED SERVICES (TURNKEY) FOR
SETTING UP A NATIONAL POPS/ODS DISPOSAL FACILITY IN BELARUS**

SAP ID (150105)

Questions	Answers
<p>QUESTION 1:</p> <p>Please provide more process related technical information concerning the application.</p> <p>POPS (species analysis, typical chemical formulas, typical concentrations (in water ?) maximum levels of halogens (chlorine, fluorine etc) sulphur, cyanide, arsenic, phosphorous, chemically bound nitrogen,</p> <p>A “typical” list would be useful (DEET, DDT, Toxaphene etc) with spider formula for any of the uncommon POPS. Confirmation of which of the following are likely / unlikely?</p> <ul style="list-style-type: none">• Organophosphate:• Carbamate:• Organochlorine insecticides:• Pyrethroid:• Sulfonylurea herbicides:• Biopesticides: <p>ODS (species analysis, typical chemical formulas, typical concentrations (in water ?) maximum levels of halogens (chlorine, fluorine etc) sulphur, cyanide, arsenic, phosphorous, chemically bound nitrogen, mercury (other heavy metals).</p> <p>Which will be liquid and which will be gaseous?</p> <p>We would expect a typical list to include?</p> <ul style="list-style-type: none">• chlorofluorocarbons (CFCs)• hydrochlorofluorocarbons (HCFCs)• hydrobromofluorocarbons (HBFCs)• halons• methyl bromide• carbon tetrachloride• methyl chloroform	<p>UNIDO does not have all the data requested. The supplier is welcome to visit the facility in Belarus to sample and analyze the stored waste.</p> <p>POPs stockpiles primarily consist of obsolete pesticides. Mixed and stored in drums.</p> <p>ODS most likely will be gaseous and consist of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and methyl chloroform.</p> <p>It is highly unlikely for the waste to consist of hydrobromofluorocarbons (HBFCs), halons, methyl bromide or carbon tetrachloride.</p>

<p>PCBs (species analysis, typical chemical formulas, typical concentrations (in water ?) maximum levels of halogens (chlorine, fluorine etc), A “typical” list would be useful (range of chlorine levels C12 H_{10-x}Cl_x). Dynamic viscosity at 40 C,</p> <p>Soils Confirmation of which typical soil parent mineral materials can be expected.</p> <ul style="list-style-type: none"> • Quartz: SiO₂ • Calcite: CaCO₃ • Feldspar: KAlSi₃O₈ • Mica (biotite): <p>typical contaminant concentrations / chemical formulas, typical moisture levels, maximum levels of halogens (chlorine, fluorine etc) sulphur, cyanide, arsenic, phosphorous, chemically bound nitrogen?</p> <p>Sludges (typical contaminant concentrations / chemical formulas, typical moisture levels, dynamic viscosity at 40 C, pH, maximum levels of halogens (chlorine, fluorine etc) sulphur, cyanide, arsenic, phosphorous, chemically bound nitrogen? A “typical” list would be useful.</p> <p>Pastes (typical contaminant concentrations / chemical formulas, typical moisture levels, dynamic viscosity at 40 C, pH, maximum levels of halogens (chlorine, fluorine etc) sulphur, cyanide, arsenic, phosphorous, chemically bound nitrogen? A “typical” list would be useful.</p> <p>Foams What substances will be handled as Foams? Similar information to the above would be required?</p> <p>Medical Waste (species analysis, typical chemical formulas, form (solid / liquid / gaseous), typical concentrations (in water ?) maximum levels of halogens (chlorine, fluorine etc) sulphur, cyanide, arsenic, phosphorous, chemically bound nitrogen. A “typical” list would be useful – are data sheets for products or materials available.</p>	<p>Concentrations / chemical formulas are unknown for soils, sludges, pastes, foams and medical waste. The supplier is welcome to visit the facility in Belarus to sample and analyze the stored waste. In case a visit is foreseen by the supplier, they should communicate this to UNIDO within a reasonable timeframe before the end of the submission deadline. A site visit can be held individually or in a group and has to be accompanied by a UNIDO Representative.</p>
<p>QUESTION 2: Requirements for Handling Please advise some more detail of how the streams will be delivered, handled, transported.</p> <ul style="list-style-type: none"> • POPS 	<p>The initial waste stream (more than 4,000 tons of obsolete pesticides) is located in the special storages of CUE (Beneficiary) territory (Dubrovka village, Chechersk district, Gomel region, Belarus</p>

<ul style="list-style-type: none"> • ODS Liquids • ODS Gaseous or Volatile • PCBs • Contaminated Soil • Sludges • Pastes • Medical Waste <p>Are there specific safety concerns / GHS warnings / product data sheets?</p> <p>Will the destruction of the transport containers (HDPE drums and IBC cubes - after shredding) be required as part of the incineration process?</p> <p>What is the expected feed rate?</p> <p>Will it be acceptable to add all of the Solids, miscible liquids (Oily OR Aqueous), Sludges and Pastes to common containers before feeding to Incinerator?</p> <p>Does the handling process need to be?</p> <ul style="list-style-type: none"> • hermetically sealed, • ventilated as Hygiene Air (which should be thermally treated in the Incinerator, • ventilated and extracted to external atmosphere – is Aspirated cover passing through a dust filter before exhaust to atmosphere sufficiently Safe? • naturally ventilated to building 	<p>(52°47'22.7"N 30°49'45.9"E). 50% of the waste is stored in UN drums; 50% in metal boxes. The new streams will be transported by CUE for storage and destruction in empty storages on this territory.</p> <p>Waste identification for the obsolete pesticides on the CUE (including based on the GHS) OECD code: A4030 EC list of wastes: 02 01 08 H-code: H6.1 UN class: 6.1 UN Number: 2902, 2588, 2777</p> <p>Yes .</p> <p>Depends on proposed equipment.</p> <p>Yes.</p> <p>Please refer to the Terms of Reference, ANNEX I Chapter 1. HIGH TEMPERATURE INCINERATOR <i>The incinerator shall be housed in a suitably ventilated enclosure</i> <i>The proposed housing and construction shall address possible impacts on ambient air quality, soils, vegetation, and other factors that may be relevant.</i></p>
<p>QUESTION 3:</p> <p>Emissions Monitoring</p> <p>In the absence of a detailed response to question 1, can UNIDO advise a maximum concentration of contaminant in the input streams for which the TO & PTTS will have to achieve IED levels.</p> <ul style="list-style-type: none"> • Dust • TOC • HCl (Chlorine) • HF (Fluorine) • SO₂ (Sulphur) • NO_x (Nitrogenous Compounds) • Heavy Metals (Heavy Metals) 	<p>Please refer to the Terms of Reference, ANNEX I Chapter 4. FLUE GAS CLEANING SYSTEM <i>The equipment set for Flue-gas Cleaning must ensure emission standards that are lower than those established by decree of the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus dated 18 July 2018 No.5-T “On approval of environmental standards and regulations” or the Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control).</i></p>

<ul style="list-style-type: none"> • Other Metals • DBDD & DBDF 	<p>The emission standards (EU and Belarussian) which must be complied with are listed in the attachment 'Emission Standards' .</p>
<p>QUESTION 4:</p> <p>Steam</p> <p>There is a requirement for steam production. Can you advise if there are any other producers / consumers of steam at site (or intended to be)? What are the steam conditions for this steam? ?? kg/hr 40 ?? bar g with ?? degrees superheat??</p>	<p>Steam is required only to meet the needs of the disposal facility.</p>
<p>QUESTION 5:</p> <p>There is a requirement for electricity production. Can you advise if there are any other producers / consumers of electricity at site (or intended to be)? What electricity is required? 450 V 3 Ph 50 Hz?</p>	<p>Electricity is required only to meet the needs of the disposal facility.</p>
<p>QUESTION 6:</p> <p>Belarus Norms</p> <p>The normalised standards relating to engineering projects in Belerus are not available to us at this stage. Can the relevant documents be made available to the vendors?</p> <p>Can UNIDO advise the implications of compliance to Ministry of Natural Resource and Environmental Protection of the Republic of Belarus 18 July 2018 No 5T as opposed to 2010 / 75 EU (IED).</p>	<p>UNIDO does not have comprehensive information on the standards that the supplier may need in the delivery of specific equipment to the Belarussian market and its installation. It is assumed that the supplier will examine the local conditions and standards.</p> <p>The emission standards (EU and Belarussian) which must be complied with are listed in the attachment 'Emission Standards'.</p>
<p>QUESTION 7:</p> <p>General</p> <p>The ITT refers to unloading, loading and repacking. Please provide more information as to what each refers to and why.</p> <p>Why repacking.</p> <p>Unloading of drums or cubes from vehicle transport, forklift, pallets, etc? By use of a loader? In manual load?</p>	<p>Unloading</p> <p>The term "unloading" referred in the Terms of Reference, ANNEX I Chapter 2. FEEDING SYSTEM - means the unloading of waste into the waste feeding system. This Chapter describes requirements for loading waste into the feeding system for each type of input materials. It is not the supplier's responsibility to provide a vehicle or a loader.</p> <p>Repacking</p> <p>Please refer to the Terms of Reference, ANNEX I Chapter 2.3. Automatic Loading Unit for Solid Waste.</p> <p><u>Input material</u></p> <p><i>Solid hazardous waste (obsolete pesticides, including chlorinated; soils contaminated by PCB or obsolete pesticides; medical waste) in UN standard HDPE drums 127 - 220 litres.</i></p> <p><u>Unit</u></p> <p><i>The incineration system must be constructed to be able to handle packaged waste in the specified drums.</i></p> <p><i>If the incineration system cannot handle packaged waste, the Automatic Loading Unit of solid waste</i></p>

	<p><i>must include additional equipment for grinding drums bulk packaging.</i></p> <p><i>In case of Single chamber incinerators, the Automatic Loading Unit of solid waste must include additional equipment for the preparation of solid waste for incinerating.</i></p> <p>In the case of equipment supply described in the last two paragraphs, the supply of repacking and preparation equipment will be required. To study the requirements for such equipment please refer to Lot 2. Automatic Repacking of Solid Waste Unit and please note that this is SUPPLEMENTARY EQUIPMENT.</p>
<p>QUESTION 8:</p> <p>Location</p> <p>Is there any information available on location, building layout, seismic, weather etc?</p>	<p>Location</p> <p>Please refer to the Terms of Reference, Chapter 5. DELIVERY TERMS: <i>Dubrovka village, Chechersk district, Gomel region, Belarus (52°47'22.7"N 30°49'45.9"E).</i></p> <p>Building layout</p> <p>There are no buildings for placement of the equipment. Please refer to the point iii) of the notes (page 11) to the ANNEX I - TECHNOLOGICAL NODES AND BLOCKS of the Terms of Reference: <i>the Specified technological nodes and blocks are supplied in an outdoor-use design. If any of the blocks does not envisage such a use, the contractor's obligation will include the construction of a facility necessary for their operation.</i></p> <p>Seismic, weather etc</p> <p>For basic information please refer to the Terms of Reference, Chapter 4.2.2.</p> <p><i>The bidder shall acquaint himself with the precise climate conditions of the place of delivery:</i></p> <ul style="list-style-type: none"> • <i>Maximum outside temperature in summer: 40°C</i> • <i>Minimum outside temperature in winter: -35°C</i> • <i>Expected snow up to 50 cm in winter.</i> <p>For further information please refer to the sites:</p> <p>1) the State institution "Republican center for hydrometeorology, control of radioactive contamination and environmental monitoring" http://www.belgidromet.by/en/</p> <p>2) The Centre of Geophysical Monitoring of the National Academy of Sciences of Belarus http://www.cgm.org.by/index.php?id=426</p>