To, The Joint Commissioner (IT-SWP),
Central Board of Excise and Custom,
Ministry of Finance,
New Delhi

Subject: Publishing of Service Level Standards (SLS) for cargo categories which require additional clearances from other regulatory agencies-reg.

Sir,

Please refer the CBEC letter No. 450/101/2015-(Cus IV) dated 29.03.2017 on the subject mentioned above. In this regard it is informed that, the plant quarantine activities of the department is being operated through Plant Quarantine Information System (PQIS). This system is to provide efficient and effective service in which exporters, importers, individuals facilitate to apply online for import release orders and exporters to apply online for phytosanitary certificates. Under ease of doing business, the online message exchange system connectivity under single window system between custom and PQIS has been made mandatory w.e.f. 1st April 2016. The desired information regarding details of time taken for the plant quarantine process by this department is furnished based on the connectivity of the online message system with PQIS in the format as annexure A.

Yours faithfully,

(N. Sathyanarana)
Joint Director (PQ)
Template for Service Level Standards

Name of the agency: Directorate of Plant Protection Quarantine and Storage

Imports:

Upon submission of Bills of Entry, it is forwarded by the Customs (System) to the Agency:

(i) From the time a Bill of Entry is referred to the agency, what is the time taken by the agency for giving NOC in case the NOC may be granted only based on documents checks by the agency?

*Expected time taken (Service level standard) in hours: NA*

(ii) From the time a Bill of Entry is referred to the agency, what is the time taken by the agency to grant NOC in case the NOC must be granted after documents checks and physical inspection by the agency (without involving lab-testing):

*Expected time taken (Service level standard) in hours: NA*

(iii) From the time a Bill of Entry is referred to the agency, what is the time taken by the agency to grant NOC in case the NOC must be granted after documents checks, physical inspection drawing of samples and testing by laboratory:

*Expected time taken (Service level standard) in hours: As annexure B & C*

**Important:** If there are different types of lab tests for testing different parameters/items, details of such tests undertaken and time taken may be provided separately for each type of test.

- Consumption- Visual examination (washing & sieving test, Floatation test, Baerman funnel test, weed seed examination), X ray test, Microscopic test
- Propagation- Visual examination (washing & sieving test, Floatation test, Baerman funnel test, weed seed examination), X ray test, Microscopic test, nematological examination, incubation test, special diagnostic test for bacteria & virus, ELISA/DIBA

(iv) *(Fill only if applicable)* From the time a Bill of Entry is referred to the agency, what is the time taken by the agency to grant NOC in case the NOC must be granted after documents checks and physical inspection and any preventive action eg fumigation/quarantine period is required:

*Expected time taken (Service level standard) in hours: As annexure D*

**Important:** If there are different types of preventive actions/processes need to be taken, please provide the details of such actions/processes to be undertaken and time taken may be provided separately for each type of action/process.
Exports:

Upon submission of Shipping Bills, it is forwarded by the Customs (System) to the Agency:

(i) From the time a Shipping Bill is referred to the agency, what is the time taken by the agency for giving NOC in case the NOC may be granted only based on documents checks by the agency?

   Expected time taken (Service level standard) in hours: **NA**

(ii) From the time a Shipping Bill is referred to the agency, what is the time taken by the agency to grant NOC in case the NOC must be granted after documents checks and physical inspection by the agency (without involving lab-testing):

   Expected time taken (Service level standard) in hours: **NA**

(iii). From the time a Shipping Bill is referred to the agency, what is the time taken by the agency to grant NOC in case the NOC must be granted after documents checks, physical inspection drawing of samples and testing by laboratory:

   Expected time taken (Service level standard) in hours: **As annexure E and Lab test are same as Annexure C**

   **Important:** If there are different types of lab tests for testing different parameters/items, details of such tests undertaken and time taken may be provided separately for each type of test.

(iv) *(Fill only if applicable)* From the time a Shipping Bill is referred to the agency, what is the time taken by the agency to grant NOC in case the NOC must be granted after documents checks, physical inspection and any preventive action eg fumigation/quarantine period is required:

   Expected time taken (Service level standard) in hours: **Same as Annexure D**

   **Important:** If there are different types of preventive actions/processes need to be taken, please provide the details of such actions/processes to be undertaken and time taken may be provided separately for each type of action/process.
## Annexure B

### Time line for Plant Quarantine activities for import of plants/plant materials

<table>
<thead>
<tr>
<th>Activity</th>
<th>Item</th>
<th>Time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import Release Order</td>
<td>a. Tissue culture and mushroom spawn culture</td>
<td>4-6 hrs</td>
</tr>
<tr>
<td></td>
<td>b. Cut flowers and fresh fruits</td>
<td>4-6 hrs</td>
</tr>
<tr>
<td></td>
<td>c. Plant material for consumption</td>
<td>1-2 working days except those requiring fumigation will be issued after 3 working days</td>
</tr>
<tr>
<td></td>
<td>d. Plants and planting material requiring Post Entry Quarantine, Viz., Bulbs/Tubers/ Cuttings/ Saplings/Bud wood etc.,</td>
<td>12-24 hrs</td>
</tr>
<tr>
<td></td>
<td>e. Seeds for sowing</td>
<td>8-10 days (where fungal and bacterial additional declaration are verified);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-35 days (where additional declaration for viruses are verified)</td>
</tr>
</tbody>
</table>
5.1. Entomological Examination:

5.1.1. The technical expert specialized in entomology will be responsible for correct identity of the pest. He will consult pest diagnostic keys, where available and endemic pest datasheets for correct identification of the insect/mite pests. Where new pest is encountered for the first time, the same will be get authentically identified by a specific taxonomical expert or national insect repository. Also specific taxonomic skills will be required for identification of fruit fly pests.

5.1.2. The laboratory technician attached to the entomological laboratory will record the samples of plants/plant products received for testing or specimens received for identification in a laboratory work book. He will consult the laboratory manual for entomology regarding collection and preservation of insect specimens, mounting and labeling of insect specimens and storage of insect specimens and mailing of insects for taxonomical identification, where applicable.

5.1.3. The X-ray technician will be responsible for carrying out X-ray test. He will record the samples received for X-ray examination in an X-ray register and the results of x-ray examination and preserve the X-ray films for future reference.

5.1.4: The entomological tests are described as under:

5.1.4.1. Visual Examination

Visual examination of samples/specimens received at the laboratory will be carried out with the help of illuminated magnifier to detect live insect infestation. Milled products are subject to sieving to detect insect infestation.

5.1.4.2. X-ray test

X-ray tests will be carried out by a trained X-ray technician. X-ray test is used for the detection of hidden infestation in seeds of leguminous crops. For this purpose a working sample of 50 (large size)-100 (small size) seeds will be selected at random and mounted on a card board or placed in a paper tray and examined under fluorescent screen of X-ray scanner (Soft X-ray type) to reveal internal damage. The seeds showing internal damage will be split open to record live infestation and the specimens are collected and further examined under microscope to characterize the pest species. Also the X-ray radiography will be carried out by exposing the film. For this purpose the film will be loaded into thick dark card board casket and the sealed casket will be kept on the top of seed tray and exposed to the X-rays and the exposed film is further developed in dark room to reveal internal infestation. The internal damage will be indicated by darker regions in the seed. Also X-ray test is used to detect internal infestation/ infection in bulbs and tubers to detect bulb rots/nematode/bulb fly infestation. X-ray techniques are as well used for the detection of internal damage by fruit/nut borers and also detection of budworms in un-opened cut flowers (tight buds).
5.1.4.3. **Microscopic Examination**

Stereomicroscope fitted with image grabber is used to capture the images of insect, which can be stored/retrieved through a computer.

5.1.5. The results of entomological examination will be entered in laboratory work book and the particulars of pest detected will be recorded in the inspection report (Annexure-6A) and submitted to the authorized officer.

**5.2. Plant Pathological Examination:**

5.2.1. The technical expert specialized in plant pathology is responsible for correct diagnosis and identification of plant pathogenic organisms such as fungi, bacteria & viruses.

5.2.2. The laboratory technician attached to the plant pathology laboratory will record the samples of plants/plant products received for testing or affected plant specimens received for identification in a laboratory work book. He will consult the laboratory manual for plant pathology regarding preparation of slide mounts for microscopic examination including permanent mounts, and labeling of microscopic slides and preservation of affected plant specimens (both wet/dry preservation) including colour preservation, preparation of media, isolation techniques for fungi/bacteria, preservation/mailing of fungal and bacterial cultures for identification including long term preservation (lyophilization).

5.2.3. Plant pathological examinations are described as under:

5.2.3.1. **Visual Examination**

Visual examination of samples of affected plant material received at the laboratory will be carried out with the help of illuminated magnifier to detect mould growth, fungal fructifications, bacterial ooze/root galls and characteristic virus symptoms.

5.2.3.2. **Microscopic Examination**

Slide preparations suitably stained in lactophenol or cotton blue are examined under high power magnification of compound binocular research microscope for identification and characterization of fungi. The photomicrographs of fungi will be taken with the help of compound microscope fitted with photomicrographic equipments. Also permanent slide mounts made in glycerol will be sealed with nail polish and appropriately labeled and stored in slide box for future reference. The bacterial infections will be characterized by examining for ooze at the cut surface and the bacterial smears are stained in crystal violet or methylene blue or basic fuchsine for microscopic examination using oil immersion objective.
5.2.3.3. Incubation test

In case of latent infections, the affected plant material is incubated in moisture chambers overnight and examined for fungal growth. Alternatively the affected leaf tissue after surface sterilization with alcohol inoculated on to suitable agar media (potato dextrose agar) for isolation of fungi or crushed in sterile water and streaked on nutrient agar in plates for isolation of bacteria.

5.2.3.4. Special diagnostic tests for plant pathogenic bacteria & viruses

Special diagnostic tests such as isolation on selective media coupled with serological tests (ELISA/DIBA) will be used for characterization of bacteria and viruses. Molecular diagnostic tests such as NASH or RT-PCR or C-DNA probes are used for characterization of virus infection. Electron microscopy is used to characterize virus particles.

5.2.4. The results of plant pathological examination will be entered in laboratory work book and the particulars of pathogen detected will be recorded in the inspection report (Annexure-6A) and submitted to the authorized officer.

5.3. Nematological Examination

5.3.1. The technical expert specialized in nematology is responsible for correct diagnosis and identification of plant parasitic nematodes.

5.3.2. The laboratory technician attached to nematology laboratory will record the samples of plants/plant products received for testing or affected plant specimens received for identification in a laboratory work book. He will consult the laboratory manual for nematology regarding extraction of nematodes from soil or infested plant material, preparation of slide mounts for microscopic examination including permanent mounts, and labeling of microscopic slides and preservation of affected plant specimens (both wet/dry preservation) including colour preservation, mailing of specimens for identification.

5.3.3. The nematological tests are described as under:

5.3.3.1. Visual examination:

Visual examination of samples of affected plant material received at the laboratory will be carried out with the help of illuminated magnifier to detect root lesions/root knots caused by nematodes and cysts adhering to the roots and also bulb rots.
5.3.3.2. Washing and sieving test

The soil adhering to the roots washed thoroughly and the root washings are sieved through a set of nematode sieves and the nematode trapped on finer sieve is extracted in small quantities of water and placed in a cavity slide examined under microscope.

5.3.3.3. Floatation test

The soil collected from potato tuber brushings is suspended in sufficient quantity of acetone/water mixture (1:4) in wide mouthed enamel dish. The cysts floated at the top of dish is stained in cotton blue and examined under the microscope to characterize the nematodes.

5.3.3.4. Baerman funnel test:

In this test, small bits of affected plant tissue are kept on a top of tissue paper supported by fine aluminium mesh resting on the top of a funnel and filled with water up to the neck, which is connected to a rubber tube clamped at the end left overnight under fine mist chamber. The water decanted from the neck of funnel examined for the presence of nematodes.

5.3.3.5. Microscopic Examination

Slide preparations suitably stained in lactophenol or cotton blue are examined under high power magnification of compound binocular research microscope for identification and characterization of nematodes. The photomicrographs of nematodes will be taken with the help of stereobinocular/compound microscope fitted with photomicrographic equipments. Also permanent slide mounts made in glycerol will be sealed with nail polish and appropriately labeled and stored in slide box for future reference.

5.3.3. The results of nematological examination will be entered in laboratory work book and the particulars of nematodes detected will be recorded in the inspection report (Annexure-6A) and submitted to the authorized officer.

5.4. Weed Seed Examination:

5.4.1. The technical expert specialized in Weed Science is responsible for correct diagnosis and identification of quarantine weeds as specified under schedule-VIII of the PQ Order, 2003 from the intercepted weed seeds with seeds/grains/pulses.
5.4.2. The laboratory technician attached to weed laboratory will record the samples of plants/plant products received for testing for weed seed contamination or specimens of weed seeds received for identification in a laboratory work book. He will consult the laboratory manual for segregation, collection and preservation of weed seeds for identification and future reference, preparation of slide mounts for microscopic examination including permanent mounts for minute seeds, and labeling of microscopic slides and present to weed specialist for identification. He will arrange for mailing of un-identified weed seed specimens for identification to a Weed Taxonomist.

5.4.3. Weed seed examination tests are described as under:

5.4.3.1. Visual Examination

Visual examination of entire quantity of sample of seeds/grains/pulses will be carried out with the illuminated magnifier or magnoscope (10 X magnification) to record seeds of any weed species. Alternatively sieving is done to remove minute seeds of parasitic weed species.

5.4.3.2. Sieving/Gravity Separation

The samples are sieved to collect the minute weed seeds or lighter weed seeds through gravity separation.

5.4.3.2. Microscopic Examination

Microscopic examination of weed seeds carried out under steriobinocular microscope/compound binocular microscope to characterize the weed species by studying their morphological characteristics of seed appendages and seed-coat ornamentation

5.4.4. The results of weed seed examination will be entered in laboratory work book and the particulars of weed seed detected will be recorded in the inspection report (Annexure-6A) and submitted to the authorized officer.

5.5. Seed health testing:

5.5.1. The technical expert specialized in seed pathology/plant pathology is responsible for correct diagnosis and identification of seed-borne pathogens.

5.5.2. The technician trained in seed health testing will record the samples of seed received for seed health testing in a laboratory work book. He will conduct the tests as per procedures described in "Seed-health testing manual" which are summerised below:
5.5.2.1. Microscopic examination

The examination is carried out either by direct examination of seed under a stereobinocular microscope for seed coat abnormalities or oospore encrustation or other fungal fructifications or seed discolourations. Slide preparations suitably stained in lactophenol or cotton blue are examined under high power magnification of compound binocular research microscope for identification and characterization of fungi. The photomicrographs of fungi will be taken with the help of stereobinocular/compound microscope fitted with photomicrographic equipments.

Also permanent slide mounts made in glycerol will be sealed with nail polish and appropriately labeled and stored in slide box for future reference. The bacterial infections will be characterized by examining for ooze at the cut surface and the bacterial smears are stained in crystal violet or methylene blue or basic fuchsine for microscopic examination using oil immersion objective.

5.5.2.2. Incubation test (blotter/agar plate method)

The seed samples are subject to blotter test/agar plate test for detection of seed-borne fungi. The seeds are tested in lots of 400 seeds by plating on moist blotters kept in transparent plastic Petri dishes or alternatively plated in seed germination boxes and are incubated for 7 days at 25-30°C under 12 hr. NUV or day light fluorescence/darkness cycles for revealing specific fungal infection. The plates are examined by a trained laboratory technician under stereobinocular microscope to detect specific fungi by habit characteristics of fungi and further confirmed by microscopic examination of slide mounts.

5.5.2.3. Washing test

A working sample of 200 seeds is used for carrying out washing test. The samples of seed is soaked in 20 ml of water in 250 ml conical flask and flasks are shaken for 10 min in wrist action type shaker and then the seed suspension is subject to low speed centrifuge for 15 minutes. After which, the supernatant is thrown out and the sediment is suspended in small quantities of water or stain and examined by a placing a drop of the aliquot on microscopic slide and examined under the microscope or alternatively a haemocytometer is used for making spore counts. The washing test is employed usually for the detection of oospores of downy mildews, rust, bunt and smut spores.

Internally seed-borne nematode infestation such as Ditylenchus angustus detected by soaking seeds in water for 24 hours and examining the seed suspensions for nematodes under a compound microscope.
5.5.2.5. Grow out test

The seeds are subjected to grow out test to detect for the presence of any latent infection especially that of seed borne bacteria, viruses and downy mildews. For this purpose at least 400 seeds are usually sown in sterile peat or sand or vermiculite in multi pot trays and incubated in controlled light and temperature growth chambers or insect-proof screen house or glass house for a period of 3-4 weeks and examined for the characteristic symptoms of the disease. The plants showing virus symptoms are inoculated to a sensitive indicator host such as Chenopodium quinoa, which produce typical local lesions characteristic of virus infection.

5.5.2.6. Special tests for seed-borne bacteria & viruses

Special diagnostic tests such as isolation on selective media coupled with serological tests (ELISA/DIBA) will be used for characterization of bacteria. Molecular diagnostic tests such as C-DNA Probe, NASH or RT-PCR are used for characterization of virus infection. Electron microscopy is used to characterize virus particles.

5.5.3. The results of seed-health testing will be entered in laboratory work book and the particulars of seed-borne pathogens detected will be recorded in the inspection report (Annexure-6A) and submitted to the authorized officer.

6.1. Reporting of Results of Inspection/Testing

6.1.1. The inspector at the end of inspection/sampling will report the results of inspection to the authorized officer in the format prescribed at Annexure-4A, giving particulars of commodity inspected, Lot Number or Marks, if any, date/time and place of inspection and number of samples drawn and the quantity along with inspection, remarks if any.

6.1.2. He will submit the inspection report along with samples drawn and specimens, if any collected, to the authorized officer for laboratory testing.

6.1.3. The technical expert of concerned laboratory, at the end of testing, will complete the rest of the report indicating the type of tests carried out, plant species/variety examined, plant parts examined and name of pest detected, if any and the degree of infestation/infection and quarantine status of the pest noticed along with recommendations, if any, and submit to the authorized officer.
## Mitigation measures:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Time required to be completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fumigation with Methyl Bromide</td>
<td>2-3 days</td>
</tr>
<tr>
<td>Fumigation with Aluminium Phosphide</td>
<td>5-7 days</td>
</tr>
<tr>
<td>Forced Hot-Air Treatment facilities for wood packaging materials</td>
<td>One day</td>
</tr>
<tr>
<td>Vapour Heat Treatment for fresh fruits and vegetables</td>
<td>One day</td>
</tr>
<tr>
<td>Heat Treatment for Niger seeds</td>
<td>One day</td>
</tr>
<tr>
<td>Hot Water Immersion Treatment Facilities for Mango fruits</td>
<td>One day</td>
</tr>
<tr>
<td>Irradiation</td>
<td>One day</td>
</tr>
</tbody>
</table>
**Time line for Plant Quarantine activities for export of plants/plant materials**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Item</th>
<th>Time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phytosanitary Certification</td>
<td><strong>Sowing/propagating materials</strong></td>
<td><strong>Minimum of 8-10 days</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Perishable commodities such as nursery plants, tissue cultures, fresh fruits, cut flowers etc.</strong></td>
<td><strong>24-48 hrs</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Plant material for consumption;</strong></td>
<td><strong>1-2 working days except those requiring fumigation will be issued after 3 working days</strong></td>
</tr>
</tbody>
</table>

*Note: Hours mentioned refer to standard business hours.*