PROCEDURES FOR IN-TRANSIT COLD TREATMENT CITRUS FRUIT SHIPMENTS TO JAPAN

**THESE PROCEDURES MUST BE SUPPLIED TO THE VESSEL SOON AFTER CHARTERING BY THE CHARTERER.**

1. All recording instrumentation and USDA sensors must be in a perfect working condition. Instruments must print the sensor numbers, temperatures, date & time clearly.

2. **Vessels equipped with Strip Chart Recorders (SCRs)**

   Recorders must be equipped with a fully functional memory backup.

3. **Vessels equipped with Computerized Systems**

   3.1 Vessels that are equipped with built-in memory backup must ensure that the backup facility is fully functional. The USDA temperature readings and other required data must print automatically.

   3.2 The computerized system must have either;

   3.2.1 **Two printers** permanently connected that are capable of printing duplicate USDA required data, 1 hourly in the harbour and 4 hourly during the voyage, for the entire duration that the cargo is on board.

   Or

   3.2.2 **One printer** capable of printing the USDA required data, 1 hourly in the harbour and 4 hourly during the voyage, for the entire duration that the cargo is on board and that also **must include a memory recording/backup** capable of providing the required data that can be printed on demand at the end of the voyage.

4. The ship must ensure that they have the following on board;

   - Minimum of 5 new fruit pulp temperature sensors (8m sensors).
   - Minimum of 2 new air temperature sensors (5m sensors).
   - Minimum of 1 new sealed and non-expired spare ribbon/cartridge per printer.

5. **Service of SCRs and Printers**

   An accredited agent must service all mechanical components within a period of 6 months prior to loading in South Africa for Japan. The printer/s must also print every hour at the prescribed set point/delivery temperature for at least 24 hours before arrival in a South African port.

   A Service Certificate confirming that the mechanical components are in good working order must be forwarded to the PPECB or presented upon arrival in South Africa. This will be confirmed during the first survey as per PPECB (Q10) inspection form, as well as confirmation on (Q58).
If serviced in South Africa, PPECB will only survey and calibrate the vessel once a Service Certificate has been issued. The printer/s must print for 24 hours to ensure that the printer/s is in a satisfactory condition. (The 24-hour print can be part of the empty deck test period required by the Japan protocol).

6. All decks must be free of taint and must be clean and dry.

7. Gratings must be in a good structural condition.

8. All decks must be pre-cooled for at least 48 hrs prior to commencement of calibration. The temperature must be maintained constantly at a RAT of minus 0,5°C for at least the last 24 hrs of the 48 hrs pre-cooling period. The PPECB Assessor will scrutinize the recorded data during the vessel survey.

9. All fixed (air) and non-fixed (pulp) USDA sensors must be removed from their protection boxes so that the ice test can commence immediately after berthing. All sensors must be marked clearly with its respective numbers.

10. After the pre-cooling USDA recorder prints have been examined, the hatches inspected for taint and the gratings checked, the PPECB assessor would request the vessel’s duty officer to install new paper or charts to their USDA recorder printer/s. The printer/s must be set at one (1) hour recording intervals and never altered, stopped or the paper removed for the duration that the vessel is in port. Prior to sailing the printing intervals must be changed to print temperatures once every 4 (4) hours and maintained for the duration of the voyage or as otherwise instructed by PPECB. The printers must continue to print all USDA temperatures during any defrosting period.

11. The PPECB assessor will place all sensors, fixed and non-fixed, in melting ice, supplied by PPECB, to check accuracy & correct operation of the sensors and recording system. The maximum correction allowed will be 0,0°C ±0,2°C.

12. On completion of the calibration test, jointly approved by PPECB, SAPQ & JPO, the ice buckets must be removed.

13. Prior to the start of loading the ships officers will be asked to return the fixed air sensor wires to their boxes with the sensors mounted outside the box. Pulp sensors must not be locked back in their protection boxes, but secured or placed out of the way of the battery forklift trucks or otherwise arranged in advance with PPECB. PPECB will be present at all times during loading and will monitor pulp temperatures, place the pulp sensors into the fruit and stamp the charts. PPECB must have access to the recording equipment at all times during loading.

14. PPECB will supply delivery air temperature instructions during and after loading for each individual deck depending on pulp temperature at that time. This will take place until the final written instruction is supplied by PPECB before sailing.

15. During loading the PPECB assessor will instruct the ships crew to open or close hatch covers for various reasons such as for rain, lunch and tea breaks etc. PPECB will also give the instruction for the starting or stopping of loading. This will also occur if something contrary to the protocol should take place, etc. Cooling must continue to all decks at the temperature prescribed by PPECB while loading is not taking
place. e.g. at the end of each day’s loading or during lengthy delays. PPECB will monitor all temperatures during loading. On completion of loading PPECB will supply official carrying instructions to the Master. Also included in the instruction document are the number of cartons and times hatches commenced and completed loading and time and date for each deck when cold treatment commencement.

16. Citrus fruit to be loaded into compartments of your vessel will be carried at a pulp temperature of minus 0.6°C ±0.6°C for the duration of the cold treatment process. Pulp temperatures must never increase to above 0.0°C during the cold treatment process. Prior to sailing PPECB will issue a final written instruction indicating the above requirements. PPECB will clear the vessel for departure once all sensors indicate a temperature of minus 0.1°C or colder.

17. The duration of the cold treatment process is twelve (12) consecutive days and must be completed during the voyage. In the event that the temperature of the fruit under cold treatment should increase above 0.0°C, the temperature of all the fruit in that specific compartment (deck) must be lowered to the required temperature and maintained for a further twelve (12) consecutive days. The delivery air temperature (DAT) may not be colder than minus 1.5°C, however, should the circumstance arise such that the delivery air temperature must be set colder than minus 1.5°C, you must first obtain approval from the PPECB before making such an adjustment.

18. During the voyage it is essential that any malfunction of the temperature control, recording equipment or fruit pulp temperature fluctuations above 0.0°C or below minus 1.2°C be immediately reported to the PPECB by e-mail or fax. Should the temperature of the fruit fall below the required temperature, the Captain or Chief Engineer will endorse the chart with the date and time when such an event occurred and sign adjacent to the endorsement.

19. A full set of temperatures must be logged or printed at one (1) hour intervals from start of calibration until the start of the voyage, thereafter logging must be changed to once every four (4) hours and maintained until completion of the voyage. Failure to comply with the requirement of printed four (4) hourly temperature records will result in the Japanese Government Authorities rejecting the fruit in the compartments concerned, and the vessel will be held liable for the relevant claim.

20. It is of utmost importance that the temperature recorders and printers are never stopped. The recorder/printer charts must remain intact i.e. pages or part thereof must never be removed at any time from the start of the calibration test until discharge of the cargo in Japan. This means that prior to calibration; a new set of recorder chart paper must be fitted to each recorder / printer. The recorder charts may only be removed after the approval by the Japanese authorities.

21. Particular care must be taken to avoid any marked fluctuations of pulp temperature during or immediately after defrosting. Printing of USDA sensor temperatures must also continue normally during and after defrosting, which means that the process of defrosting must not interrupt the print of the temperatures. Temperatures must therefore continue to print at the due intervals as indicated above. It is good practice to defrost between four hourly prints.

22. The Master or the Chief Engineer must sign the temperature log or printout that reflects the temperatures in the various compartments, at least once every twenty-four (24) hours. Time and date must also be entered onto the log next to the relevant signature. This record must be submitted to the Japanese Plant Quarantine Authority as evidence that the vessel complied with the required cold treatment conditions.
23. Carbon dioxide (CO\textsubscript{2}) level in each deck must be maintained below the maximum human safety level of 0.5%. It is advisable not to ventilate unless very necessary and should preferably be done at night.

24. The vessel’s senior officers must ensure that none of the PPECB numbered seals is broken prior to the inspection by the Japanese Quarantine Inspector in the discharge port. Only the Japanese Quarantine Authorities may give permission to break any PPECB seals. The Japanese authorities will not permit the discharge of any cargo from compartments with broken PPECB seals.

25. The Master is requested to allow the Japanese and South African Quarantine Inspectors on board the vessel on arrival in the Japanese port of discharge to carry out certain duties and inspection in respect of the sealed cargo and recorded temperature data.

26. After completion of the twelve (12) day cold treatment period, it is the vessel’s responsibility to ensure that the delivery air temperature(s) (DAT) are raised as stipulated in the official PPECB carrying instruction for the respective types of citrus. As PPECB generally only receives one set of temperatures per day from the vessel during the voyage, they are not in a position to inform the Master as to when the cold treatment has successfully completed for the respective compartments and when the temperatures/set points must be raised.

27. You will be requested to e-mail the following each morning to PPECB. For your convenience PPECB can supply a standard Q106 form for this purpose.

- All USDA sensor readings as obtained from the recorder (morning) print.
- All readings must include the correction factor, determined by the calibration test, when reporting to PPECB.
- Temperature set points of each common and independent compartment.

Failure to comply with any of the above requirements will result in the rejection of the affected cargo by the Japanese Plant Quarantine authorities.

NB - Your attention is drawn to the fact that the cargo logbooks, temperature data and or recording charts, or copies thereof must be forwarded to PPECB on request:

- Contact person:

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