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| **OWM On-the-Job Training and Mentoring** **Worksheet Form**  |
| **Employee/Trainee Name:** |
| **Trainer/Mentor Name:** |
| **Topic/Procedure: NC SOP 71 Water Triple Point Cells (plus: GMP 11 and GMP 13)** |
| **GENERAL Measurable Training/Learning Objectives Applicable for all SOPs** | **Trainee Initials and Date** | **Mentor Initials and Date** |
| DESCRIBE (and FOLLOW/USE) applicable safety and protective equipment requirements for this SOP |  |  |
| PERFORM this SOP while DESCRIBING steps as if for an assessor |  |  |
| **NC SOP 71 Measurable Training/Learning Objectives** | **Trainee Initials and Date** | **Mentor Initials and Date** |
| After observing, reading, and performing this calibration procedure, the Metrologist can:DESCRIBE and PERFORM the procedure in such a way that it would satisfy an internal auditor or accreditation auditor. |  |  |
| Section 1.1, Metrologist can:IDENTIFY and FIND the documentary standards (ASTM E 1750) |  |  |
| Section 1.1, the Metrologist can: IDENTIFY location of laboratory calibration certificates for working standards, laboratory traceability hierarchy, and status of calibration due dates; (ASSESSMENT of the laboratory traceability records as performed during LAP Problems).DESCRIBE good measurement comparison techniques based on reading and observing demonstrated NC SOP 71 calibration. |  |  |
| Section 6, the Metrologist can: DISCUSS how Metrologists use check standards and control charts to monitor measurement operation, IDENTIFY all the control charts associated with thermometry operations and DESCRIBE the differences between these charts.DESCRIBE the maintenance service and/or calibration procedure for laboratory equipment (paying particular attention to what equipment requires calibration and which items do not);VERIFY that standards to be calibrated have equilibrated the requisite amount of time |  |  |
| Section 8, the Metrologist can:IDENTIFY laboratory check standards that will be used and be able to FIND the applicable control chart for the check standards that will be used;PERFORM the calibration of the check standard and enter the value in the appropriate control chart and determine if the results are in/out of applicable statistical limits;DESCRIBE the laboratory control chart components based on the SOP 9 checklist (similar to LAP Problems that EVALUATE the control charts compared to the SOP 9 checklist);DESCRIBE what values are inside the warning and action limits and what the likely variation of values is for the check standards being used.Mentor should provide insight of common problems that have been or might be observed for the standards in question, what trends might be reviewed over time, and how data from the control chart is used to calculate and update the standard deviation of the measurement process, degrees of freedom, and uncertainties. |  |  |
| **Trainee Final Observations/Assessments Summary:** |
| Describe how confident you are with finding all the files and resources in your laboratory that are needed to perform this calibration, prepare a certificate, and return items to customers? What additional training do you think you need to improve? How much additional time performing this calibration do you think you need to feel confident? What additional questions do you have or follow up would you like to see? |
| **Trainer Observations/Assessments Summary:** |
| Describe in your own words: How closely did the trainee follow the SOP? How many times and what nominal values/standards/equipment were used when you demonstrated the procedure AND when you observed the trainee performing the procedure? How did your measurement results agree? How did their values look on the laboratory control chart(s)? Were they able to describe the procedure to your satisfaction? Were gaps observed? Is additional follow up needed? What additional assessments did you observe that help to ensure that learning objectives were met? |
| **Objective Evidence Assessed by Trainer/Mentor (***maintenance of electronic records is encouraged***):** |
| * Reading Outline (completed by trainee, reviewed by trainer/mentor, discussed)
* Video of Demonstration/Performance (optional, recommended)
* Data Sheet(s) of completed measurements
* Traceability Assessment of Laboratory Standards Used completed by trainee (Using GMP 13 forms, with list of laboratory files/locations)
* Calculations for the SOP with work shown by hand or in Excel with Validation Notes
* Spreadsheet File(s) PDF print-out of data entry of completed measurements
* Control Chart record showing trainer/mentor data and trainee data and evaluation of control charts with SOP 9 checklist evaluation
* Independent Uncertainty analysis following applicable SOP and SOP 29, comparison with official laboratory uncertainties
* Calibration Certificate for calibrations performed by trainee
* Calibration Certificate marked up as reviewed for compliance with SOP 1 and applicable SOP
* List of laboratory files reviewed by trainee:
	+ Template Spreadsheet File:
	+ Completed Spreadsheet File(s):
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| **Applicable Proficiency Test(s):** | **Date of Calibration:** | **PT Evaluation Report** (*Name, Date*) |
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| **Employee/Trainee Signature:** | **Trainer/Mentor Signature:** |
| **Recommended for Approved Signatory Status (Name, Title, Signature):** |
| **Approved for signatory status by NIST Office of Weights and Measures (name & date):** |