

SKILLS EVALUATION SYSTEM  
PROMOTION PROGRAM (SESPP)

**REPORT ON THE TRAINING SESSION  
IN CAMBODIA**

Experts	Mr. YUNOKI Masanori Mr. INAGAWA Fumio (SESPP Secretariat Technical Advisor)
Period	Monday, February 19th ~ Thursday, February 22nd, 2024
Venue	National Polytechnic Institute of Cambodia (NPIC) Phnom Penh City, Kingdom of Cambodia
Training course	Skills Evaluation Trial (SET)
Trade & Grade	Mechanical Inspection, Grade 3

**March, 2024**

# Outline of Results

## 1. Number of participants

**<SET>**

**Assessors: 11**

**Examinees: 15**

**Successful examinees: 1**

## 2. Schedule

Date & Time	Content										
February 19 <sup>th</sup> (Monday) 8:30 - 16:40 (All local time)	[Skills Evaluation Trial] <ol style="list-style-type: none"> <li>① Explanation of the Training schedule</li> <li>② Practical test implementation method and operational considerations</li> <li>③ Formation of evaluation team and role assignment</li> <li>④ Checking the test equipment</li> <li>⑤ Checking the necessary supplies</li> <li>⑥ Test venue setup and equipment arrangement</li> <li>⑦ Implementation of mock practical test (the experts confirmed how to perform test tasks from 1 to 3)</li> <li>⑧ Practice on how to measure correct values</li> <li>⑨ The experts gave guidance on the trial</li> </ol>										
February 20 <sup>th</sup> (Tuesday) 8:30 - 16:20	[Skills Evaluation Trial] <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">8:30-8:45</td> <td>Opening ceremony, Reception</td> </tr> <tr> <td style="text-align: center;">8:50-9:50</td> <td>Theoretical test (15 examinees)</td> </tr> <tr> <td style="text-align: center;">9:50-12:00</td> <td>Practical test (1<sup>st</sup> trial: 6 examinees)</td> </tr> <tr> <td style="text-align: center;">13:00-16:05</td> <td>Practical test (2<sup>nd</sup> trial: 9 examinees)</td> </tr> <tr> <td style="text-align: center;">16:05—16:20</td> <td>Preparation for scoring work</td> </tr> </table>	8:30-8:45	Opening ceremony, Reception	8:50-9:50	Theoretical test (15 examinees)	9:50-12:00	Practical test (1 <sup>st</sup> trial: 6 examinees)	13:00-16:05	Practical test (2 <sup>nd</sup> trial: 9 examinees)	16:05—16:20	Preparation for scoring work
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February 21 <sup>st</sup> (Wednesday) 8:30 - 15:00	[Skills Evaluation Trial] <ol style="list-style-type: none"> <li>① Measuring correct values and making deduction evaluation sheet</li> <li>② Scoring work</li> <li>③ Scoring work and evaluation, summary of results</li> <li>④ Making practical test result table and Test result sheet</li> </ol>										
February 22 <sup>nd</sup> (Thursday) 8:30 - 15:40	[Skills Evaluation Trial] <ol style="list-style-type: none"> <li>① The participants took Theoretical test</li> <li>② Explanation of skill test standard and details Explanation of subjects and details for which theoretical test questions are asked.</li> <li>③ Explanation of answer key to theoretical test questions</li> <li>④ Practice on Practical test Task 1 (work time: 16 minutes/person) The participants are evaluated based on Work attitude scoring sheet.</li> <li>⑤ Summary</li> </ol>										

### 3. Review

<Mr. Yunoki>

All 11 participants of last year's SAT took part in this SET at NPIC in Phnom Penh. We were able to complete the full procedure in accordance with the implementation guidelines: the lecture and preparation for theoretical test and the practical test on the day before the test; the preparation and test administration; and scoring work. There were 15 examinees, and 1 of them passed. Of these, 1 examinee passed the theoretical test and 7 examinees passed the practical test. Based on the evaluation scores from these results, we could conclude that examinees from NPIC generally performed well in practical test, while examinees from companies were not able to understand and get prepared for the test content. Since this result can be used as skill evaluation, in the future, the Cambodia workers need to learn basic operations at work sites, and to take measures to improve knowledge of basic items of inspection work. Specifically, they must learn about the standards and details of the Mechanical inspection trade based on industrial standards and acquire basic work (Practical test tasks) (standards are currently ISO and JIS).

<Mr. Inagawa>

(1) This training course was the second SET for the participants. We thought that the participants had generally reached an appropriate level in terms of their attitude toward working on SET, management and implementation skills as skill assessors. However, when measuring with a micrometer, many participants said that it was difficult for them to read the measured values at the 1 $\mu$ m and 2 $\mu$ m level. Therefore, we explained how to read  $\pm 1\mu$ m and  $\pm 2\mu$ m from the degree of overlap between the sleeve baseline and the thimble scale line. I hope that they will improve their measurement skills in the upcoming training courses.

(2) Although the test was conducted in an air-conditioned room, the participants often left the door open when entering and leaving the room. We had to remind them to close the door every time they entered and left the room. Mechanical inspection is work that requires a person to have measurement skills that can read down to the  $\mu$ m level. For example, a block gauge with a length of 100 mm expands by 1.1  $\mu$ m when the temperature increases by 1°C. For this reason, we encouraged them to develop the habit of paying close attention to the instrumental error of the measuring instruments they use and changes in indoor temperature.

(3) Regarding the practical test, NPIC conducted a preliminary training course for those wishing to take the test (NPIC students), and as a result, seven students exceeded the passing score. On the other hand, all those who did not take the preliminary course (examinees from companies) scored below 50 points. From next time, NPIC will hold a preliminary training session on how to fill in the measured values for Tasks from 1 to 3 for all the people who wants to take the test.

### 4. Questionnaire Results

<SET>

◆ Assessors: 11 (Respondents: 11) (\* 5-point scale)

Satisfaction level:	5: Very satisfied = 7	4: Useful = 4
Usefulness level:	5: Very useful = 7	4: Useful = 4
Improvement level:	5: Much improved = 3	4: Improved = 8
Needs of continuation:	5: Must continue = 7	4: Should continue = 4

[Improvements and proposals]

- If the training time were longer, I could have been able to learn more from the experts.
- I would appreciate if you could provide relevant training materials prior to trial implementation.
- Theoretical questions are difficult. Furthermore, even in practical test questions, it is difficult to read down to micrometer ( $\mu\text{m}$ ).

[Opinions, comments, and preferred trades for the future]

- After completing the training course on Mechanical inspection, I would appreciate if you could implement Welding trade.
- Mechanical drawing, Mechatronics
- Machining technology
- Mechatronics
- Turning
- A training course on how to measure the surface roughness of workpieces.
- I would appreciate if you could provide a document on how to inspect a milling machine.

◆ Examinees: 15 (Respondents: 15) (\* 5-point scale)

Satisfaction level:	Very satisfied = 9	Satisfied = 5	Neither = 1
Usefulness level:	Very useful = 8	Useful = 7	
Needs of continuation:	Must continue = 7	Should continue = 8	

[Improvements and proposals]

- I would appreciate if you could hold a preliminary training session before the trial. (2)
- I would appreciate if you could have the theoretical test questions translated with higher quality.
- The time for Practical test Task 1 is too short, and the workpiece is small, making it difficult to measure.
- I need more time for Task 1, but less time for Tasks 2 and 3.
- I would appreciate if you could hold more training programs in Cambodia.

[Opinions, comments and preferred trades for the future]

- Besides Mechanical inspection, I would appreciate if you could implement electrical work and PLC programming.
- Electrical trades
- Mechanical trades (2)
- Other trades
- I would like to become a machinist, so I want to learn about CNC milling and Turning.
- Regarding mechanical skills, I think implementing a measurement-related program like this is very good.
- I would appreciate if you could hold a preliminary training session before the trial.
- For the sake of the younger generation, I would appreciate if you could implement Mechanical Inspection Grade 2 in Cambodia.

◆ Manager: 1 (Respondents: 1) (\* 5-point scale)

Needs of continuation: 5: Must continue = 1

[Improvements and proposals]

- I don't have any comments.

[Opinions, comments, and preferred trades for the future]

- Mechanical inspection