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| Departemen_Perhubungan.wmf | FORM SKENARIO LABORATORIUM/SIMULATOR/ WORKSHOP | Nomor Dokumen : FM.USW.01.02a |
| Tgl. Ditetapkan : 02 November 2015 |
| Revisi No : 02 |
| Tgl. Diberlakukan : 09 Januari 2017 |
| Made By : | Reviewer : |
| PIP SEMARANG | **ACHMAD WAHYUDIYONO,****MM., M.Mar.E** | **ELY SULISTYOWATI, S.ST., M.M** | AMAD NARTO, M.Pd., M.Mar.E |
|  | Mengetahui |
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| Type Facilities :* Laboratorium
* Simulator
* Other
 | Name Laboratorium/ Simulator/ Other :**METI** |

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| **Criteria on STCW Code** | Construction and operating mechanic can be understood and explained with drawing/instructions. |
| **Function & Level** | Marine Engineering at The Operational Level (ATT : III)\* |
| **Program** | **Preparing, Star Up And Running Main Engine (Diesel) To Ocean Going Condition** |
| **Referensi STCW** |  STCW/CONF. 2/34. *Table A-III/1* |
| **aim of Exercise** | To provide adequate minimum standard of competence for officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine room for operate main and auxiliary machinery and associated control systems. |
| **Objective** | Upon completion of this training the student should be able to:1. Respond to Master order to preparing main engine for departure
2. Open the guidance booklets and identify appropriate list
3. Preparing prior to Star Up Main Diesel Engine
4. Operation ME From "Before M/E Start" condition for Leaving Port or Manoeuver Condition
5. Operation ME From "Just Before Ocean Going" Condition
6. Safely report to Master

. |
| **Initial condition**(Run ERS by mode 5) | 1. Ship is in port
2. No.1 DG single operation.
3. Main Air Compressor running in auto to fit Main Air Reservoir Press. 2.45 ~ 2.94 Mpa.
4. Aux Boiler auto running in to produce 0.55 ~ 0.90 Mpa steam press.
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| **Briefing** | 5 minutes |
| **Exercise Duration** | 30 minutes |
| **Debriefing** | 5 minutes |

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| **Measurable Criteria** (Student action to be measured): | : |  |  |  |

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| **No** | **Time frame (minutes)** | **Student action** | **Check** | **Remark** | **Actual time** | **Mark** | **No** |
| Y | N |
|  | 5 | Briefing\* |  |  |  |  |  |  |
| 1 | 1 | Respond to Master order to preparing, star up and run ME to ocean going condition |  |  |  |  |  |  |
| 2 | 2 | Open the operating manuals and identify appropriate list |  |  |  |  |  |  |
| 3 | 15 | Preparing prior to Star Up Main Diesel Engine, including:* 1. Respond Stand Telegraph Order from Wheel House by Press S/B Buzzer Switch at C/R after Sub Telegraph Order from W/H
	2. Start Up Of Diesel Generator by MCB
1. Start No.2 Diesel Generator
2. Close No.2 D/G ACB
3. Confirm No.1 & No.2 D/G Para-Run and share load.
	1. L.O. System
4. Start Main L.O. Pump
5. Start Stern Tube L.O. Pump
6. Prime Cylinder Oil
	1. Cool. F.W. System
7. Start Jacket C.F.W. Pump
8. Heat M/E Warm Up Jacket C.F.W Heater
9. Confirm Jacket C.F.W. Temp. About. 50°C
	1. ~~Supply Exh. Valve Spring Air Pressure~~.
	2. Turning Of Main Engine
10. Open Indicator Valve
11. Engage Turning Gear
12. Start Turning Motor
	1. Aux. Machinery
13. Select Diesel Oil M/E F.O. Selection
14. Start M/E F.O. Boost. Pump
15. Start M/E F.O. Circ. Pump
16. Discharge Scavenge Air Manifold Drain
17. Put Aux. Blower No. 1 ~ No. 3 selection to Auto ECC
18. Start No.3 & 4 E/R Vent. Fan
19. Stop Turning Motor
20. Disengage Turning Gear
	1. Try Of Main Engine
21. Discharge Main Air Reservoir Drain
22. Confirm Main Air Reservoir Press. by 2.45 ~ 2.94 Mpa
23. Open M/E Start Air Root Valve
24. Service Main Starting Valve
25. M/E Air Run /blow up (After Informed To Bridge)
26. Close Indicator Valve
27. Try Engine: ahead – astern (After Informed To Bridge)
28. Reply Sub Telegraph to S/B
	1. Starting Geer System by Start No.1 & No.2 Steering Geer Pp.
	2. Operation Of Water System
29. Stop M/E Warm Up Heater
30. Start Cool. FW. For Coolers
* M/E L.O. Cooler
* M/E Air Cooler
* S/T L.O. Cooler
 |  |  |  |  |  |  |
| 5 | 5 | Operation ME From "**Just Before Ocean Going**" Condition1. Increase Of M/E Speed
2. Put Main Telegraph to Nav. Full after W/H order
3. Confirm M/E speed Up To NSR (89 Min-1)
4. M/E F.O. Change Over D.O. To H.F.O:
5. Heat M/E F.O. Heater
6. Open M/E F.O. Steam Trace Line
7. Increase F.O. Temp. by Set Temp. Cont. Mode (145°C) - Temp. Increase 2 °C/Min Automatically
8. Confirm F.O. Temp.( Reach To 70°C ).
9. F.O. Change "D.O." --> "H.F.O."
10. ~~F.O. Temp. Increase by Set Temp. To 145°C~~
11. Confirm F.O. Temp. & Viscosity ( 145°C ( 15 Mm2/Sec)
12. ~~Set Control Mode F.O. Temp. Control Viscosity.~~
13. ~~Keep F.O. Viscosity Set by 15 Mm~~~~2~~~~/Sec~~
14. Changing Of Sea Chest Suction
15. Open Main Sea Chest Low
16. Close Main Sea Chest High
17. Increase Central Cool. Water Capacity
18. Start St-By Central Cool. S.W. Pump confirm Total 2 Sets Pump Running
19. Start St-By Central Cool. F.W. Pump confirm Total 2 Sets Running
20. Exhaust Gas Economizer System
21. Open steam valve system Circ, Start Boiler W. Circ. Pump
22. Open Stop Valve For Superheater Exhaust Gas Economizer
23. Check pressure steam Drum Press
24. Start SG and parallel with DG
25. Start TG and parallel, and DG 1 & 2 Off
26. Start Fresh Water Generator and check ppm Salinometer
 |  |  |  |  |  |  |
| 6 | 2 | Safely report to Master that ME is Ocean Going Condition. |  |  |  |  |  |  |
|  |  | Debriefing\* |  |  |  |  |  |  |

Preparation Tasks: Refer Diesel Engine manual and METI Engine Room Simulator check list to running ME.

\*Critical performance below must get record **“Yes”** mark will lead the final result to mark **FAIL**

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| **No** | **Critical Performance** | **Y** | **N** |
| 1 | Respond Stand Telegraph Order from Wheel House by Press Control Room S/B Sub Telegraph Reply after Sub Telegraph Order S/B by W/H |  |  |
| 2 | M/E F.O. Change Over H.F.O. to D.O |  |  |
| 3 | Check control mode and change from C/R to W/H |  |  |
| 4 | Star up 2nd D/G and put in parallel run. |  |  |
| 5 | Total actual time duration to complete mission is 30 minutes or below |  |  |

**Time factor**

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| <30 minutes = 1 | 31 – 40 minutes = 0.9 | 41 – 50 minutes = 0.8 | >50 minutes = 0.5 |

**Total Time : ………………minutes Time Factor : …………….**

**Total Score : Total Mark X Total Factor = …………… x ……………. = …………….**

**Final Result : PASS / FAIL ( Passing Grade = 70 )**