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|  | Enclosure No. 1 to the letter No. 340-01-20/\_\_\_\_\_dated «\_\_\_\_» \_\_\_\_\_\_\_\_\_\_ 2019 |

JUSTIFICATION of labor input and cost of work on BNPP SE systems inspection

| Ser. No. | Specialist name | Number of specialists | Duration, in business trip days, in calendar days | Amount of work, in men per month. | Cost of work (Grade 9B: 15,783.00), in Euro | Main types of work |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | AB System (Floating boom - FB) |
| 1.1 | Technical specialist | 2 | 11 | 0.73 |  | 1. Checking of the AB system configuration in accordance with the passport;
2. Analysis of the operational documentation of maintenance carried out during the operation;
3. Analysis of the operational documentation on the identified deviations and failures during the operation period;
4. Inspection of the AB system appearance and general technical condition (divers are involved);
5. Checking of the condition of mooring anchor under water and attachment points (divers are involved);
6. Checking of the condition of the shore attachment devices and opening devices for the passage of watercraft (divers are involved);
7. Checking of the SPA availability and condition;
8. Drawing of the AB system technical condition map (act).
 |
| 1.2 | Diver | 3 | 3 | 0.3 |  |
|  | **Stage total:** | **1.03** | **16,256.49** |  |
| 2 | **KP System (system for surface target detection and tracking)** |
| 2.1 | Technical specialist  | 2 | 10 | 0.67 |  | 1. Analysis of the operational documentation on the identified deviations and failures during the operation period and maintenance;
2. Diagnosis of the information cooperative processing, display and registration system condition;
3. Measurement of the RL information cooperative processing, display and registration system main parameters set in tactic and technical system characteristics;
4. Measurement of the main parameters set in tactic and technical characteristics;
5. Performance of system software diagnosis
6. Checking of the working efficiency and controllability of PRU, RE, TS, television system from different AWS.
7. Drawing of the technical condition maps (acts)
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|  | **Stage total:** | **0.67** | **10,574.61** |  |
| 3 | **NM System (Nerpa-M stationary hydroacoustic station)** |
| 3.1 | Technical specialist  | 2 | 10 | 0.67 |  | 1. Checking of the technical condition of tools and devices that ensure the system operation (AWS, PS, TS, AMMD, connector cables, ACV, monitors, system units);
2. Inspection of the system appearance and general technical condition (divers are involved);
3. Checking the appearance of the antenna modules, pressure-sealed coupling, underwater cables, devices for mounting the antenna modules (AMMD) and the integrity of electrical connectors under water (without lifting the antenna modules) (divers are involved);
4. Lifting the antenna modules and the pressure-sealed coupling with the attached underwater cables from underwater to the deck of the watercraft (divers are involved);
5. Cleaning and uncoupling of cables from the antenna modules and pressure-sealed coupling (divers are involved);
6. Checking of cable insulation resistance and working efficiency of the antenna modules and pressure-sealed coupling (works are performed on the deck of a watercraft);
7. Installation of the antenna modules and pressure-sealed coupling with the attached underwater cables under water at a regular place (divers are involved);
8. Testing the performance of the NM system as a whole with a swimmer simulator in various modes defined by the operating manual (divers are involved);
9. Measurement of the main parameters set in the tactical and technical characteristics of the NM system;
10. Checking of the NM system working efficiency and controllability from different AWS (divers are involved);
11. Checking of the NM SPA availability and condition;
12. Drawing of the NM system technical condition map (act).
 |
| 3.2 | Diver | 3 | 4 | 0.4 |  |
|  | **Stage total:** | **1.07** | **16,887.81** |  |
| 4 | TM System (Tral-M hydroacoustic underwater protection device) |
| 4.1 | Technical specialist | 2 | 10 | 0.67 |  | 1. Checking of the technical condition of tools and devices that ensure the system operation (AWS, PS, TS, AMMD, connector cables, ACV, monitors, system units);
2. Inspection of the system appearance and general technical condition (divers are involved);
3. Checking the appearance of the antenna modules, pressure-sealed coupling, underwater cables, devices for mounting the antenna modules (AMMD) and the integrity of electrical connectors under water (without lifting the antenna modules) (divers are involved);
4. Lifting the antenna modules and the pressure-sealed coupling with the attached underwater cables from underwater to the deck of the watercraft (divers are involved);
5. Cleaning and uncoupling of cables from the antenna modules and pressure-sealed coupling (divers are involved);
6. Checking of cable insulation resistance and working efficiency of the antenna modules and pressure-sealed coupling (works are performed on the deck of a watercraft);
7. Installation of the antenna modules and pressure-sealed coupling with the attached underwater cables under water at a regular place (divers are involved);
8. Testing the performance of the TM system in various modes defined by the operating manual (divers are involved);
9. Measurement of the main parameters set in the tactical and technical characteristics of the TM system;
10. Checking of the TM system working efficiency and controllability from different AWS (divers are involved);
11. Checking of the TM SPA availability and condition;
12. Drawing of the TM system technical condition map (act).
 |
| 4.2 | Diver | 3 | 3 | 0.3 |  |
|  | **Stage total:** | **0.97** | **15,309.51** |  |
|  | **Total:** | **3.74** | **59,028.42** |  |