OPERATION SEQUENCE PLAN

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Step 1. General Information About Job Assignment** | | | | | | | | | | | | | | | | | | | | | |
| **Organization** | | | | | | | | | | | | | | **Work Permit No. and Date of Issue** | | | **Work Performance Date** | | | | |
| SMS LLC | | | | | | | | | | | | | | Work Permit No. 76 dd 1/17/2020 | | | 1/13/2020 | | | | |
| **Actual Place of Work** | | | KTs-2, MNLZ-9, span I-K, axes 24-27, el. +13.500 | | | | | | | | | | | **Type of Works** | | | Installing metal structures | | | | |
| **Work Duration** 11:30 | | | **Start Time:** | | | | | | | **End Time:** | | | | **Person Issuing Work Permit:**  **Title, Full Name** | | | TsRSO Mechanic D. A. Davydov | | | | |
| 7:30 AM | | | | | | | 7:00 PM | | | |
| **Authorized Worker (R&S)** | | | Supervisor M. V. Zavgorodniy | | | | | | | | | | | **Foreman**  **(Senior Worker)** | | | S. A. Malyovannyi | | | | |
| **Step 2. Resources Necessary for Completing Job Assignment** | | | | | | | | | | | | | | | | | | | | | |
| **Special Equipment** *E.g.: excavator, bulldozer, crane, loader, truck* | | | | | | | | | **Equipment and Tools**  *E.g.: compressor, welding machine, angle grinder, perforating machine* | | | | | | | **Auxiliary Facilities**  *E.g.: slings, hooks, concrete hopper, industrial container, ladders, scaffolds* | | | | | |
| Overhead Crane | | | | | | | | | Welding inverter, equipment set for gas cutting | | | | | | | Four-leg cable sling 4SK-5000-3000, guy wires | | | | | |
|  | | | | | | | | |  | | | | | | |  | | | | | |
| **Step 3. PPE Necessary for Completing Job Assignment** | | | | | | | | | | | | | | | | | | | | | |
| Helmet | | | | ˅ | Welding goggles / headshield | | | | | | | ˅ | Self-contained breathing apparatus | | | | |  | Positioning system | |  |
| Safety goggles | | | | ˅ | Fire-resistant / temperature-resistant special clothing | | | | | | | ˅ | Respirator / filtering gas mask | | | | |  | Fall arrest system | | ˅ |
| Face shield | | | | ˅ | Special protective mittens or gloves | | | | | | | ˅ | Headshield with air supply | | | | |  | Restraint system | |  |
| Anti-vibration gloves | | | |  | Temperature-resistant special shoes | | | | | | | ˅ | Breathing apparatus with hose attachments | | | | |  | Rescue and evacuation system | | ˅ |
| Anti-vibration shoes | | | |  | Anti-noise earplugs | | | | | | |  | Gas analyzer | | | | |  |  | |  |
| Others: | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | |
| **Step 4. Sequence of Job Assignment Completion** | | | | | | | | | | | | | | | | | | | | | |
| 1 | Welding of mounting structures | | | | | | | | | | | | | | | | | | | | |
| 2 | Movement of metal structures with the use of lifing devices (overhead crane) | | | | | | | | | | | | | | | | | | | | |
| 3 | Installation of metal structures with the use of gas-cutting and welding equipment | | | | | | | | | | | | | | | | | | | | |
| 4 | Fit-up of metal structures | | | | | | | | | | | | | | | | | | | | |
| 5 |  | | | | | | | | | | | | | | | | | | | | |
| **Step 5. Types of Work Being Carried Out In Immediate Proximity That May Have Impact** | | | | | | | | | | | | | | | | | | | | | |
| 1 | | Installation of industrial pipeline (SMS LLC) | | | | | | | | | | | | | | | | | | | |
| 2 | |  | | | | | | | | | | | | | | | | | | | |
| 3 | |  | | | | | | | | | | | | | | | | | | | |
| **Step 6. Risks and Risk-Reduction Measures** *(to be filled out, briefing to be carried out)* | | | | | | | | | | | | | | | | | | | | | |
| **HAZARDOUS FACTORS** *mark if the factor relates to the job assignment* | | | | | | | | **RISK-REDUCTION MEASURES**  mark *if the measure should be taken* | | | | | | | | | | | | | |
| **Workplace** | | | | | | | | | | | | | | | | | | | | | |
| **1** | Slip, trip and falling hazards | | | | | | ˅ | Keep the workplace clean and orderly. Avoid obstructing passages. Use shoes with anti-slip protection. | | | | | | | | | | | | | ˅ |
| **2** | Temporary confined space, pit, trench, earthfill | | | | | |  | Enclose the workplace. Set up slopes, Ensure the availability of a ladder for access. Minimum two entrances / exits for equipment and personnel to / from a trench / pit. | | | | | | | | | | | | |  |
| **3** | Works in confined or enclosed spaces | | | | | |  | Ensure the presence of an inspector, the operation of supply and exhaust ventilation and lightning, the performance of gas analysis and the application of RPE, safety harnesses and a flexible anchor line. | | | | | | | | | | | | |  |
| **4** | Poor visibility | | | | | |  | Ensure artificial lightning of the workplace. | | | | | | | | | | | | |  |
| **5** | Sharp and toothed objects | | | | | |  | Ensure the application of PPE (gloves, special clothing and shoes). Regularly clean the workplace. Enclose the workplace. | | | | | | | | | | | | |  |
| **6** | Hot surfaces | | | | | | ˅ | Enclose hot surfaces and mount warning signs. Ensure the application of PPE (gloves, special clothing). | | | | | | | | | | | | | ˅ |
| **7** | Works at height | | | | | | ˅ | Check the integrity of a structure and the correctness of scaffolding installation. Ensure the application and operability of PPE protecting from falling (safety harness, sling, anchor device). Conduct briefing in respect of working at height, mark anchor points. Enclose dangerous openings and areas under the place of work considering the radius of objects dropping from height. Make sure that no works are simultaneously carried out below. | | | | | | | | | | | | | ˅ |
|  | Other | | | | | |  |  | | | | | | | | | | | | |  |
| **Working Operations** | | | | | | | | | | | | | | | | | | | | | |
| **8** | Handling operations | | | | | | ˅ | Enclose work areas considering the directions of crane operation and install warning signs. Choose and check the operability of removable load-handling devices. Preliminarily check the place of LD installation for its safe installation. Remove people from adjacent amenities and production facilities located in immediate proximity to LD. Make sure that there are no obstacles and simultaneously working equipment in the path of the crane boom. | | | | | | | | | | | | | ˅ |
| **9** | Hot works: welding, cutting, etc. | | | | | | ˅ | Remove combustible materials located at the workplace prior to the start of works. Ensure the availability of a fire extinguisher / fire blanket. Warning about the start of works. Monitoring the workplace after completion of work. Make sure that no works are being carried out in the immediate proximity which are not allowable when performing hot works (applying fire-retardant composition, painting works, fueling equipment) | | | | | | | | | | | | | ˅ |
| **10** | Manual Handling of Heavy Goods | | | | | | ˅ | Do not move goods weighing more than 50 kg manually. Do not lift goods weighing more than 10 kg at a height of more than 1.5 m manually. | | | | | | | | | | | | | ˅ |
|  | Other | | | | | |  |  | | | | | | | | | | | | |  |
| **Equipment and Mechanisms** | | | | | | | | | | | | | | | | | | | | | |
| **11** | Vibration equipment, i.e. chisel hammers and compactors | | | | | |  | Ensure the application of PPE (for hands, eyes and ears). Limit the duration of works. | | | | | | | | | | | | |  |
| **12** | Using hand tools | | | | | | ˅ | Visually inspect the integrity of tools prior to the start of works.  Use tools designated for this type of works. | | | | | | | | | | | | | ˅ |
| **13** | Construction equipment and vehicles | | | | | |  | Enclose workplaces. Check the availability and operability of a reverse signal. | | | | | | | | | | | | |  |
| **14** | Rotating parts of mechanisms and equipment | | | | | |  | Enclose mechanisms. Check the operability and reliability of protective cover fastenings. Turn off or restrict access to mechanisms not used in the course of works. | | | | | | | | | | | | |  |
| **15** | Pressurized vessels | | | | | |  | Visually inspect equipment and fixtures prior to the start of works. Involve qualified personnel for carrying out the works. Enclose the workplace and remove personnel not engaged in the work performance. | | | | | | | | | | | | |  |
|  | Other | | | | | |  |  | | | | | | | | | | | | |  |
| **Worker** | | | | | | | | | | | | | | | | | | | | | |
| **16** | Tiredness / physical fatigue | | | | | | ˅ | Arrange a break in work. Monitor the well-being of colleagues. | | | | | | | | | | | | | ˅ |
| **17** | Insufficient qualification for carrying out assigned job | | | | | | ˅ | Check and preliminarily make sure that personnel is sufficiently qualified to carry out the assigned job. Do not allow untrained personnel to work. | | | | | | | | | | | | | ˅ |
|  | Other | | | | | |  |  | | | | | | | | | | | | |  |
| **External Factors** | | | | | | | | | | | | | | | | | | | | | |
| **18** | Falling objects | | | | | | ˅ | Enclose workplaces. Fix tools. Warn about the works at height (warning signs). If necessary, use holding cables / harnesses attached to the belt. | | | | | | | | | | | | | ˅ |
| **19** | Low / high ambient temperature | | | | | |  | Ensure the following: The availability of water, warming post and hot drinks, the application of PPE adequate to the season. Organize regular breaks. | | | | | | | | | | | | |  |
| **21** | Dust, powder, hazardous matters in the air | | | | | |  | Use PPE for eyes and respirators. Preliminarily make sure that filters are designated for the workplace with taking into account the LOC of hazardous matters in the air. Check the safety data sheet for the substance in order to determine necessary RPE for working with such substance. | | | | | | | | | | | | |  |
| **21** | Works being carried out in immediate proximity / combined works | | | | | | ˅ | Coordinate workers’ actions via authorized workers. Ensure the continuous exchange of information between workers of subsequent brigades. Should it be impossible to delineate work on a territorial basis, develop measures (brigade attendance chart, protecting and catching net, etc.), agree upon them with all the participants of the process with documenting such measures in the combined work log. | | | | | | | | | | | | | ˅ |
| **22** | Open manholes, openings and incomplete building structures | | | | | |  | Install hard barricades, warning labels, signs, indicators, covers | | | | | | | | | | | | |  |
| **23** | Severe weather events: rain, fog, snowfall, wind | | | | | |  | Install shelters, tents. Assess the possibility of carrying out lifting works. Check that there are no light, unpressed materials. Assess tipping, falling, flying risk. Install shelters with taking into account the load and the possibility of temporary structure collapse. | | | | | | | | | | | | |  |
| **24** | Noise | | | | | |  | Ensure the application of PPE for ears. Determine a method for visual evacuation signal. | | | | | | | | | | | | |  |
| **25** | Gas-polluted environment | | | | | |  | Ensure the availability and operability of gas analyzers. Continuously track the condition of gas air environment. Use gas-proof equipment. Develop the sequence of actions in case of personnel evacuation and make all involved personnel read it. | | | | | | | | | | | | |  |
| **26** | Open access to distributing boards | | | | | |  | Lock distributing boards. Engage trained workers with permit to connect / disconnect equipment. Mark the dangerous area around the closed switchgear. | | | | | | | | | | | | |  |
| **27** | Power | | | | | | ˅ | Check the safety of electrical equipment and tools, i.e. the availability of earthing, safety device systems, the integrity of bodies, insulations, etc. Ensure the availability of information plates and labels on electrical equipment. Lay cables with taking into account the passage for personnel and machines. Provide for the cable abrasion protection in places of contact with structures. | | | | | | | | | | | | | ˅ |
|  | Other | | | | | |  |  | | | | | | | | | | | | |  |
| **Step 7. Dynamic Risk Assessment** | | | | | | | | | | | | | | | | | | | | | |
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| **Step 8. Incident and Event Response Plan** *(fill out and conduct briefing for workers)* | | | | | | | | | | | | | | | | | | | | | |
| Evacuation route and meeting point: | | | | | | | | | | | | | The location of the first aid kit and the nearest aid post | | | | | | | | |
| KTs-2, gate 35 | | | | | | | | | | | | | DDR-L camp, SMS construction headquarter  KTs-2 aid post in ABK-1200 | | | | | | | | |
| Other | | | | | | | | | | | | | | | | | | | | | |
| **Step 9. Personnel Content** | | | | | | | | | | | | | | | | | | | | | |
| **I confirm that I have received and fully understood this information. I will fully observe the requirements for the job assignment.** | | | | | | | | | | | | | | | | | | | | | |
| Full name | | | | | | | | | | | **Signature** | | **Full name** | | | | | | | **Signature** | |
| S. A. Malyovannyi | | | | | | | | | | | *(signature)* | |  | | | | | | |  | |
| D. A. Bushnev | | | | | | | | | | | *(signature)* | |  | | | | | | |  | |
| V. V. Klopko | | | | | | | | | | | *(signature)* | |  | | | | | | |  | |
| D. N. Borisenko | | | | | | | | | | | *(signature)* | |  | | | | | | |  | |
| D. P. Kinko | | | | | | | | | | | *(signature)* | |  | | | | | | |  | |
|  | | | | | | | | | | |  | |  | | | | | | |  | |
| **I have provided safety awareness briefing to my workers performing the job assignment.** | | | | | | | | | | | | | | | | | | | | | |
| Authorized worker’s full name and signature: | | | | | | M. V. Zavgorodniy | | | | | | | | | (signature) | | | Time of Briefing: | | 7:20 AM | |