| **Working program**  **for presence of REA expert in TAVANA Co. concerning the Pipeline & Reactor Internal Vibration Analysis** | | | | |
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| Date | | SUBJECT | Schedule/responsible | |
| 8:30-12:30 | 14:00-17:00 |
| Sat | 11.11.17 | Introduction | * Introduction of the experts/participants * TAVANA presentation about pipeline vibration analysis Methodology of BNPP-1 * Presentation of Russian experience about pipeline vibration analysis by Mr. Sergey B. Kravets | |
| sun | 12.11.17 | Pipeline Vibration Assessment  (Presented by: Mr. Sergey B. Kravets) | - Available Standards and/or Guidelines  - Acceptance criteria | - Visual assessments |
| Mon | 13.11.17 | Potential excitation mechanism  (Presented by: Mr. Sergey B. Kravets) | -Mechanical Excitation  -Flow induced turbulence  -Pulsation  -High frequency acoustic excitation  -Water hammer  -Cavitation  -Slug flow | |
| Tue | 14.11.17 | Pipeline vibration measurement techniques  (Presented by: Mr. Sergey B. Kravets) | -Modal Response technique  -Strain (Stress) measurement technique | -Instrumentation and vibration measurement requirements |
| Wed | 15.11.17 | Specialist predictive techniques  (Presented by: Mr. Sergey B. Kravets) | -Structural FEM, CFD, Acoustic FEM, Pulsation analysis, … | |
| Thu | 16.11.17 | Static & dynamics Simulation using CAESAR II and/or Autopipe Software | Static & dynamics Simulation using CAESAR II and/or Autopipe Software | |
| Fri | 17.11.17 |  |  |  |
| Sat | 18.11.17 | Static & dynamics Simulation using CAESAR II and/or Autopipe Software | Static & dynamics Simulation using CAESAR II and/or Autopipe Software | |
| Sun | 19.11.17 | Pipeline Vibration Measurement and Analysis  (Presented by: Mr. Sergey B. Kravets) | -Methodology  -Corrective actions | |
| Mon | 20.11.17 | Reactor Internal Vibration Analysis/Monitoring | - TAVANA presentation about Reactor Internal Vibration Analysis/Monitoring Methodology | -Presentation of Russian experience about Reactor Internal Vibration Analysis/Monitoring by Mr. Sergey B. Kravets |
| Tue | 21.11.17 | Reactor Internal Vibration Analysis/Monitoring  (Presented by: Mr. Sergey B. Kravets) | -Sources of excitation  -Application of neutron noise analysis method  -other methods  - Final Methodology | |
| Wed | 22.11.17 | Examining of a sample example | Vibration analysis of main condensate pipeline | |
| Thu | 23.11.17 | Examining of a sample example | Corrective actions for reducing main condensate pipeline’s vibration | |
| Note: All subjects should be presented separately (Preferably in English version if available). | | | | |