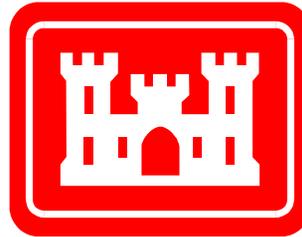


Construction Practices in Russia

prepared for the

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Construction Practices in Russia

- Brief CWDF Overview
- Describe Russian Construction Practices (Briefly)
- Sequenced construction photographs of Russian buildings
 - Warehouse (combination precast and pre-engineered metal) – 13 photographs
 - Administration Building – 25 photographs
 - Fire Station Main Building – 21 photographs

Chemical Weapons Destruction Facility (CWDF) Overview

Project Participants

- Our Russian sponsor is the Federal Directorate for Safe Storage and Disposal of Chemical Weapons, of the Russian Federation's Federal Agency for Industry
- The US Army Corps of Engineers Engineering and Support Center, Huntsville is the contracting agency for the integrating engineering management and support contractor: Parsons
- Other major subcontractors:
 - GIPROSINTEZ, GosNIIOKhT and SAIC in the architectural and engineering field
 - Washington Group International and EG&G in the construction management and systemization fields
 - Magnitostroy, Spetsstroy, Strotransgaz-M and Promstroy in construction



БЕЗОПАСНОСТЬ ПРЕЖДЕ ВСЕГО!
SAFETY FIRST!



РОССИЙСКИЙ КОМПЛЕКС ПО УНИЧТОЖЕНИЮ ХИМИЧЕСКОГО ОРУЖИЯ
RUSSIAN CHEMICAL WEAPONS DESTRUCTION COMPLEX

НА ПРОЕКТЕ РКУХО ЗАРЕГИСТРИРОВАНО X5 52X 645 ЧЕЛ/ЧАСОВ БЕЗ НЕСЧАСТНЫХ СЛУЧАЕВ.

THE RCWDC HAS ACCUMULATED A TOTAL OF X5 529 645 MANHOURS WITHOUT AN INJURY ACCIDENT.

НА ПРОЕКТЕ РКУХО ЗАРЕГИСТРИРОВАНО X XX1 524 РАБОЧИХ ДНЕЙ БЕЗ НЕСЧАСТНЫХ СЛУЧАЕВ.

THE RCWDC HAS ACCUMULATED X XX1 524 DAYS WHICH HAVE BEEN ACCIDENT FREE.

"ЗА ДОСТОВЕРНОСТЬ СВЕДЕНИЙ ОТВЕЧАЕТ ОТДЕЛ ОХРАНЫ ТРУДА ПРОЕКТА РКУХО"
"THIS BOARD IS MAINTAINED BY RCWDC CONSTRUCTION SAFETY MANAGEMENT TEAM".

Russian Construction Practices

Soil Excavation and Compaction in Sub-Freezing Conditions

- Excavations in Frost Penetration Zone
 - Use of hydraulic hammers to break ground
 - Use of augers to penetrate frost zone for piling
 - Spoiling excavated frozen soils
- Backfill in Sub-freezing weather
 - Use of dry soils obtained from depth
 - Use of straw to cover placed/compacted lifts prior to next lift

Use of Pre-Cast Concrete

- Foundation Blocks
- Structural Columns
- Floor Systems
- Wall Systems
- Appurtenances such as stairs

Cold Weather Concreting & Masonry

- Concrete
 - Heated Aggregates
 - Heated Water
 - Antifreeze
 - Admixtures
- Formwork
 - Electrical Resistance Heating of Forms
- Reinforcement
 - Electrical Resistance Heating of steel
- Protection of Placed Concrete during cure period
- Mortar
 - Antifreeze in water
 - Plaster

Other Practices

- Use of Rail Mounted Tower Cranes
- Personnel Protection in cold weather construction operations
 - PPE
 - Warming Stations
- Welding of Concrete Reinforcement Steel
 - Common Practice Allowed per Russian Codes

Warehouse Construction



























Administration Building Construction



















































Fire Station Construction









































