



Company Profile

Client Oriented Commitment

Share with us your objectives, your vision, time table and budget and we will assess the feasibility of your project and come back to you with the most efficient design and construction solutions available.

From the initial feasibility studies, through planning and development, through project design and tender stage we will help you deliver a quality solution on time and on budget.

DNEC prides itself in listening to the client's objectives and project goals and then recommending the most efficient construction path and solution oriented assistance.

We are pleased to work with owner clients directly, large government agencies, contractors or in support of other architectural/engineering firms.

Our inherited experience in the GCC region over the last 13 years speaks to the true value that DNEC brings to the project design and construction team. Innovative designs utilizing proven technologies all delivered in a safe fashion, on schedule, on budget, every time.



The Company

DNEC was founded in 2005 as partnership of two experienced structural engineers, Nenad Jovanovic and Darko Popovic. Both partners bring over a decade of project design and construction experience in the Middle East, interacting with all of the major construction companies, governmental agencies and private development firms.

The partners dedicated work ethic and efficient on time solutions has attracted a growing clientele, enabling the firm to grow to twenty full time structural engineers.

The consultancy now operates throughout the Middle East and South East Europe.

DNEC is dedicated to follow and support an ever growing client base where ever projects may lead. Innovation, quality design, flexibility and experience are DNEC sources of strength.

DNEC has developed key partners and cooperative working arrangements with manufactures, specialty and general contractors, and large A/E firms. DNEC can quickly develop team of designers and contractors to tackle even the largest of projects, in an efficient timely manner.

DNEC currently operates two design centers:

Emirates DNEC Engineering Consultants LLC – Abu Dhabi, UAE

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Founded in Sept. 2007.

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Key Area of Services

1. Structural Design of Buildings

- Concept, preliminary and “for construction” design and detailing.
- Structural analysis, design and detailing of super high-rise buildings with Hyder Consulting Middle East as a main Client.
- Design and detailing of all types of structures - concrete, steel, pre-stressed, post-tensioned, composite etc.
- Expertise in the field of seismic and wind engineering, building movement and structural vibrations induced by wind or human pace (in cooperation with Full Scale Dynamics Limited from Sheffield, UK)

2. Structural Design of Infrastructure

- Design of bridges.
- Design of reservoirs, water-tanks and water-towers

3. Engineering Consultancy Services

- Review and Peer-review services
- Value engineering, re-design and provision of alternative construction solutions using precast pre-stressed structural elements, post-tensioned elements and composite steel/concrete elements.
- Vibration monitoring services in association with ‘Full Scale Dynamics Limited’ from Sheffield, UK.

4. Construction Support

- Temporary works design and design verification of temporary structures such as scaffolding assemblies, wall shutters and temporary props and bracings.
- Expertise in heavy-lift engineering, strand-jacking and design of associated temporary works.
- Complete engineering solutions including sequence of construction, planning and positioning of cranes and construction scheduling.

5. Evaluation, Rehabilitation and Strengthening of structures

- External pre stressing solutions.
- Jacketing and design of CFRP (carbon fiber reinforced polymers) applications for strengthening of reinforced concrete elements.
- Advanced procedures for state-of-art seismic resistance structural evaluation including static and dynamic non-linear analysis.



DNEC Selected References

BUILDINGS:

Project Name: The Pentominium

Client: Trident International Holdings
Architect: Aedas Architects
Consultant: Hyder Consulting Middle East Ltd
Location: Dubai, UAE

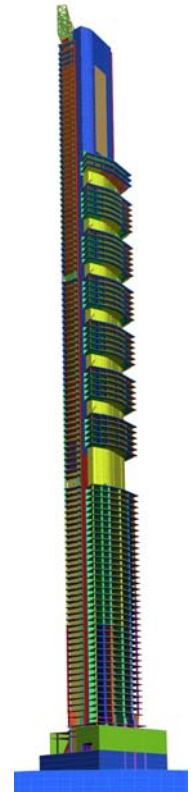
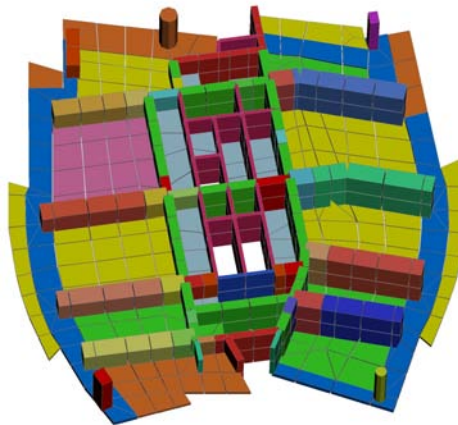
DNEC role: Engaged with **Hyder Consulting Middle East Ltd** to prepare “for Construction” design.

Duration: Sept. 2007– March 2008,
DNEC – Belgrade, Serbia

Status: Under construction

Reinforced concrete, 120 storey, 518m in height. Residential high-rise development. Six underground parking levels. High strength concrete up to 100MPa cylinder strength utilized.

Picture: *Strand7 FEA model of the structure*



Project Name: Burj Al Fattan Tower

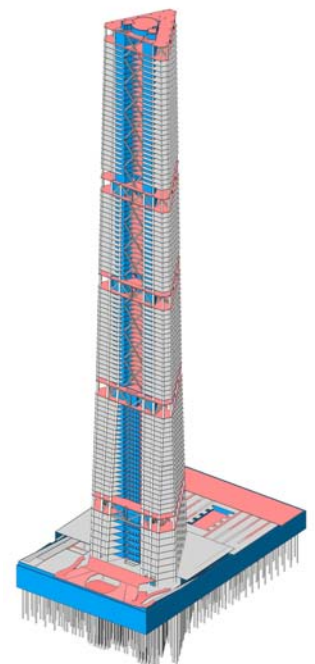
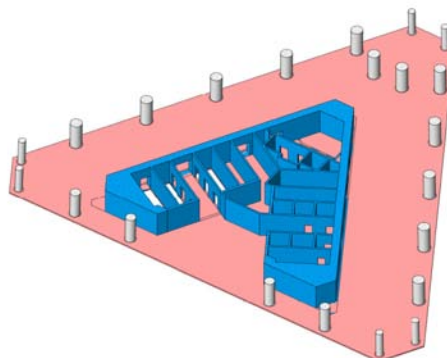
Client: All Fattan Properties
Architect: LWD Architects
Consultant: Hyder Consulting Middle East Ltd
Location: Dubai, UAE

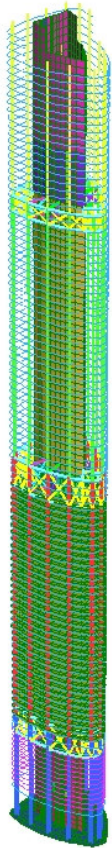
DNEC role: Engaged with **Hyder Consulting Middle East Ltd** to prepare Concept and Preliminary design.

Duration: June 2008 – Dec, 2008, DNEC – Belgrade, Serbia
Status: Tender stage

Composite Steel/Reinforced concrete tower structure. Mixed use high-rise development of 97 storeys. Total height 463m. Four underground parking levels. High strength concrete up to 100MPa cylinder strength utilized.

Picture: *Revit model of the structure*





Project Name: Abu Dhabi Tower

Client: Roya International
Architect: Adrian Smith + Gordon Gill Architecture LLP
Consultant: Hyder Consulting Middle East Ltd
Location: Doha, Qatar

DNEC role: Engaged with **Hyder Consulting Middle East Ltd** to prepare concept Design.

Duration: Sept. 2007– March 2008, DNEC – Belgrade, Serbia
Status: Preliminary design phase

Composite Steel/Reinforced concrete tower structure. Mixed use high-rise development of 102 storeys. Total height 470m. Four underground parking levels. High strength concrete up to 100MPa cylinder strength utilized.

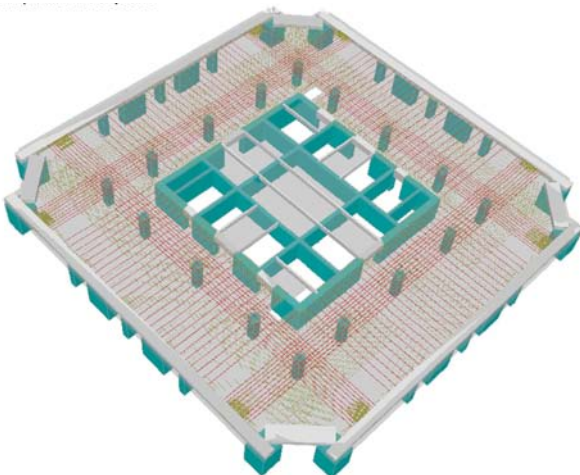
Picture: *Strand7 model of the structure*

Project Name: Doha Convention Center & Tower

Client: Qatari Diar
Architect: Murphy/Jahn
Consultant: Hyder Consulting Middle East Ltd with MKM
Location: Doha, Qatar

DNEC role: Engaged with **Hyder Consulting Middle East Ltd** to prepare “For Construction” Design of post-tensioned pre-stressed slabs

Duration: Sept. 2007– March 2008, DNEC – Belgrade
Status: Tender phase



High-rise Reinforced concrete structure with central core and four mega-columns in corners. Post-tensioned slabs with bonded tendons and details adjusted to jump-form technology of central core construction.

Picture: *Ram Concept model of the structure*



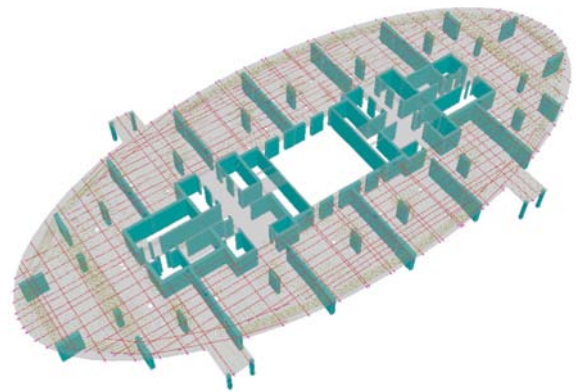
Project Name: Shams Abu Dhabi Gateway Tower

Client: Sorouh
Architect: Arquitectonica
Consultant: Hyder Consulting Middle East Ltd
Location: Abu Dhabi, UAE

DNEC role: Employed by **Hyder Consulting Middle East Ltd** to prepare Peer review/review of post-tensioned pre-stressed slabs

Duration: Sept. 2007– March 2008,
DNEC – Belgrade

Status: Under construction



High-rise structure with central core and perimeter columns. Independent peer review of post-tensioned slab design with bonded tendons and details adjusted to jump-form technology of central core construction.

Picture: *Ram Concept model of the structure*



Project Name: Delta Tower - Block 20

Client: Delta Tower d.o.o
Architect: MYS
Location: Belgrade, Serbia

DNEC role: Assigned Lead Structural Consultant

Duration: Ongoing (DNEC – Belgrade)
Status: Preliminary design phase

About 150000m², mixed-use complex: 32 storey tower, hotel, shopping-mall, five levels of underground garage in water

Picture: *Aerial view (Courtesy of MYS Architects)*



BRIDGES / INFRASTRUCTURE:

Project Name: Exit Ramp ADNEC Car Park A

Client: Hilalco
Location: Abu Dhabi, UAE

DNEC role: Design of ramp-bridge

Duration: July – Octob.2008. (DNEC–UAE)
Status: Completed

Exit ramp for Abu Dhabi National Exhibition Company. Bridge design to Abu Dhabi Municipality/AASHTO requirements includes design of bridge box girder, piers, abutments, pile caps and approach slab. The bridge is designed as three span (30m – 35m – 17m) continuous post-tensioned box girder.



Picture: ADNEC Ramp (Courtesy of Hilalco)

Project Name: Three Temporary Bridges, Al Laffaina Island

Client: Tasameem
Location: Abu Dhabi, UAE

DNEC role: Structural design of bridges

Duration: March – May 2008 (DNEC–UAE)
Status: Completed

Structural design and detailing for the three bridges in Al Laffaina Island.

Bridge No. 1: Three span continuous bridge, each span 40m long.

Bridge deck designed using precast post-tensioned I-girders with precast slabs and in-situ topping.

Bridge No. 2: Single-span 28m long bridge. Bridge deck designed using precast pre-stressed I-girders with precast slabs and in-situ topping.

Bridge No. 3: Single-span 55m long bridge. Precast post-tensioned I-girders with in-situ slab.

Pictures: (Courtesy of Al Meraikhi Precast)



CONSTRUCTION SUPPORT

Project Name: Ice Skating, Aquarium and Carnival Walk Roof Trusses, Dubai Mall

Client: Eversendai LLC
Location: Dubai, UAE

DNEC role: Engineering solution for installation

Duration: Jan.–Nov. 2006 (DNEC–UAE)
Status: Completed

Complete engineering solution for installation of Dubai Mall roof trusses. Structural design and analysis of different installation stages/conditions. Preparation of method statements and installation manuals as well as construction drawings.

Aquarium and Ice Skating roof trusses (22Nos. trusses in total, span approx. 50m each) launched into position by sliding over the distance of 60m using strand jacks and temporary sliding rails.

Carnival Walk triangular shape trusses (20m in length) installed using segmental erection over the temporary shoring trusses.

Site supervision and inspection provided for the above launching and installation operations.



Project Name: Balanced Cantilever Construction method for Dubai Metro Bridges

Client: VSL – Freyssinet – Rizzani de Eccher JV
Location: Dubai, UAE

DNEC role: Engineering solution for temporary propping

Duration: December 2006 – May 2007 (DNEC–UAE)
Status: Under construction



Structural design and detailing of temporary prop structural elements for Dubai Metro bridges constructed using Balanced Cantilever construction method. Each BC Prop assembly comprises 1.2m wide, 2.6m high heavy-duty post-tensioned precast spreader beam, two numbers precast columns and top-mounted structural steel bracing together with all provisions necessary for installation of hydraulic jacks and temporary bearings. Maximum working load on BC Prop - 17000kN. All connections designed and detailed to allow easy installation and dismantling for re-use at various Dubai Metro Project's locations.



Project Name: Ibn Battuta Office and Hotel

Client: Higgs & Hill

Location: Dubai, UAE

DNEC role: Engineering expertise

Duration: December 2006 (DNEC–UAE)

Status: Completed

Structural verification of thermal cracks' width in foundation slab, design of construction joints and concrete pour sequence.

