

## STRUCTURAL CAPABILITY



### SERVICES INCLUDE:

- Platform design
- Certified Verification Agent (CVA) work
- Platform damage/corrosion assessment/design/repair (hurricane and/or impact)
- Loading terminal design (loading platforms, breasting dolphins, and mooring dolphins)
- Helideck design
- Compressor vibration analysis and stiffening design
- Platform assessments
- Platform abandonment engineering support
- Lift analysis and padeye design
- Jacket flotation and upending analysis
- Equipment transportation and tie-down design
- Subsea PLES/PLEM and manifold design
- Suction anchor and suction pile foundation design
- Subsea equipment protection structure design
- Subsea jumper installation design
- Deepwater pipeline/riser installation design/support
- Vessel appurtenance design, including stinger design
- Vessel/barge strengthening
- FPSO/MODU support framing for production equipment
- Hull strengthening design
- Foundation design, onshore/offshore
- Pipe and equipment supports

UniversalPegasus International (UPI) has a talented team of structural engineers focused on the design, fabrication and installation of onshore and offshore structures. Our structural group has extensive experience in all aspects of structural steel and concrete design.

UPI can provide conceptual, FEED, detailed design, and project management services. Project experience in the offshore arena includes conventional production platforms, drilling platforms, braced and un-braced caissons, salvaged platforms, deck modifications, equipment additions, and platform assessments.

Structural work includes platform design, platform refurbishment, platform damage assessment and platform assessments required by the BSEE, platform repair and additions, appurtenance design, lift, load-out, and transportation design, and platform abandonment engineering. In conjunction with the use of complex computer software packages, our engineers have designed platforms in water depths up to 667 feet. As for CVA work, we have worked with platforms in 1,186 feet water depth.

Our structural engineers have performed extensive design work related to onshore and offshore pipelines and their installation. As this industry progresses into deeper water, extensive design experience is available in the design of subsea structures. Designs have been provided to operators as well as installation contractors. These designs include laydown sleds, PLEM, PLES, and PLET designs, manifolds, suction piles, tether anchors and anchor clamps, helical strake arrestor clamps, and net guards.

Our group performs CVA work in support of BSEE and our customers. Our work is recognized by government agencies in the U.S. and Trinidad.

We also have extensive experience in vessel support, which includes but not limited to, lay barge stinger design, tensioner machine supports, reel and reel skidding design, FEA design, vessel/barge strengthening design, PLET installation handling, FPSO and MODU production equipment support, pulling pad-eye design, and appurtenance designs.



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