**Company** | APL - Advanced Production and Loading AS  
**Design** | BTL™ - Buoy Turret Loading  
**Purpose** | Standard/shuttle tanker mooring  
**Description**  
A novel solution to a traditional approach to a mooring/fluid transfer Buoy System, the BTL (Buoy Turret Loading) and BTP (Buoy Turret Production) systems complement APL's STL, STP, SAL and SAP systems.  

Different from the other APL systems, the BTL system is based on mooring to a buoy floating on the surface. APL's Submerged Turret Loading (STL) System has proven, through the existing installations, its superiority to other loading systems for operation in harsh environments.  

Being built up around exactly the same turret system, the BTL buoy is very closely related to STL. Expanding the hull from the conical shape of the STL system suitable for being docked into the mating recess in the bottom of an STL vessel, the BTL Buoy hull is designed for meeting the requirements to a surface-floating buoy able to moor vessels.  

**Main Components:**  
* Buoy with integrated turret, swivel, piping and utilities  
* Hose(s)/hawser for tanker connection  
* Complete mooring system including anchors  
* Optionally: export flowline(s) from FPSO/platform to BTL Buoy including risers  

Based on the proven STL™ system components:  
* Fluid swivel  
* Turret structure  
* Self-lubricating sliding bearings  
* Mooring line connections  
* Riser termination system  

**Applications:**  
* Tanker or FSO mooring and loading  
* Loading at offshore oilfields  
* Discharge or loading near shore for onshore refinery, storage or oilfield  

**Typical mooring system:**  
* 4 - 9 Leg system consisting of  
* Upper chain or wire segment  
* Polyester or wire rope segment  
* Bottom chain segment  
* Anchor  

**Contact** | APL - Advanced Production and Loading AS
SSP - Sevan Stabilised Platform

Company: Sevan Marine AS  
Design: SSP - Sevan Stabilised Platform  
Purpose: Floating production, storage, and offloading platform  
Type: Steel/double-sided hull/circular  
Areas: Shallow or ultra-deepwater

Description
The SSP, Sevan Stabilized Platform, is an advanced and cost-effective solution for development of deepwater offshore fields. Its compact structure and design ensure a short construction period, favourable motion characteristics and high regularity operations. The SSP is classified as an FPSO.

The SSP is the superior solution for deepwater floating production, storage and offloading.

Main achievements with the SSP technology:
* Proven technology  
* High safety level  
* High capacity for both oil storage and deck load  
* Low cost and fast construction  
* High flexibility for various applications  
* Extensive model tests completed

Main SSP features:
* Spread mooring - no turret, no swivel  
* Optional DP or thruster assist  
* Simple riser connection - catenary risers may be used  
* Double sided hull - high stability reserve  
* Excellent motion characteristics - negligible roll and pitch  
* May be used in ultra deep or shallow water  
* Proven technology in all elements of the design

Wide capacity range:
* The SSP has a wide capacity range with an oil storage capacity of up to 2.2 million barrels

Contact: Sevan Marine AS
**Company**  Atlantia Offshore Limited  
**Design**  Ultra Deep Semi-Submersible - Wet-Tree  
**Purpose**  Floating Production  
**Type**  Wet-Tree Full Production Semi-submersible (FPU)  
**Areas**  Worldwide  
**Depth**  150m - 3000m  

### Description

Atlantia Offshore Limited, in conjunction with its sister company, GustoMSC-Ocean Design (GMOD), have developed a wet-tree semi-submersible design aimed at oil and gas developments in ultra deepwater. The semi-submersible floating production unit (SSFPU) design was initiated in early 2003 for the purpose of developing oil and gas reserves in the ultra-deepwaters of the Gulf of Mexico (GOM) with wet trees.

Two main considerations drove Atlantia's design.

- The hull configuration was derived only after the allowable steel catenary riser motion envelope was defined.
- The hull to topsides integration was to be completed quay-side, eliminating the expensive offshore lift and hookup.

The SSFPU will serve to complement Atlantia’s dry tree capable SeaStar® TLP and provide our clients with a solution for wet tree deepwater development prospects, where a semi-submersible FPU is the best alternative.

**Benefits of Ultra Deepwater Semi Submersible - with Wet-Trees:**  
- Lower overall cost and shorter schedule  
- Quay-side fabrication and installation reduces cost and risk  
- Large deck space with flexible layout for future tiebacks  
- Easily relocatable  
- Proven technology worldwide  

### Contact

Atlantia Offshore Limited

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> Atlantia has a very successful track-record in the delivery of EPCI projects in the GOM. That experience, together with GMOD’s semi-submersible design experience dating back to 1977, forms the overall semi-submersible facilities design team.


B-SEMI

**Description**
B-SEMI is a semi-submersible drilling unit that was developed for the exploration and development of the deep-water reservoirs. This design was conceived to provide the industry with an economical MODU that is capable of being operated in the moored condition in 1526 to 2440m (5000 to 8000ft) of water. Alternatively it can be outfitted with thrusters and a dynamic positioning system to operate without the spread mooring. This particular version of this design is not intended for operations in the most severe environments, such as the Northern North Sea or West of the Shetlands. It was designed for operations in the deepwater Gulf of Mexico, West Africa, Brazil and other similar environments. The name B-SEMI was chosen to provide a link to its designers, Bennett & Associates and to describe its relatively boxy form.

The shape of the B-SEMI is square, which, other than the triangle, is one of the most stable types of structural elements that can be utilised in a design. This shape also provides for a clean and efficient drilling unit. The box hull form is stable to tow and maintain course stability when it is towed with one column into the seas. It has been designed to have respectable motions without having to complicate the structure to obtain better heave characteristics. The areas of operation for ultra deep drilling units, deeper drafts may be desirable for improved motion criteria resulting in having both an operational and survival draft.

The B-SEMI is designed to operate at a single draft for both survival and operations thereby eliminating some of the operating complexities and stability considerations. In areas having milder environmental conditions, deeper drafts may be desirable for improved motion criteria resulting in having both an operational and survival draft.

The displacement of the B-SEMI is only slightly greater than that of an Enhanced Pacesetter, yet it can support a variable deck load of 6000 tons. Additionally, its eight-point mooring system can easily provide stationkeeping characteristics for a rectangular unit of this size. The hull and columns are arranged to permit clean egress of the mooring lines so the chains or wires will not be chafed even at the most critical mooring line angles. The storage of the risers on either side of the upper hull provides ample storage area for even the most aggressive casing programs. Riser joints of just about any length can be accommodated due to the configuration of the cranes and decks. The knuckle-boom cranes can handle the riser from the operator’s cab and feed it to the drillfloor without the need for double handling or other special apparatus.

The B-SEMI is designed to operate at a single draft for both survival and operations thereby eliminating some of the operating complexities and stability considerations. In areas having milder environmental conditions, deeper drafts may be desirable for improved motion criteria resulting in having both an operational and survival draft.

**Dimensions:**
- **Length overall (excluding anchor racks and helideck):** 62.00m
- **Breadth overall (excluding anchor and riser racks):** 62.00m
- **Height, baseline to main deck:** 36.00m

**Lower hull:**
- **Square hulls:**
  - **Breadth:** 16.00m
  - **Depth:** 8.00m
- **Columns:**
  - **Outer columns (4):**
    - **Breadth:** 16.00m
    - **Length:** 16.00m
- **Spacing CL to CL:** 22.00m

**Upper hull:**
- **Length overall:** 62.00m
- **Breadth overall:** 48.00m
- **Height to column tops:** 28.50m
- **Height to main deck:** 36.60m
- **Height to drillfloor:** 40.50m
- **Depth:** 8.10m

**Certification:**
- **Classification Society:** American Bureau of Shipping
- **Conventions:**
  - IMO MODU Code 1989
  - SOLAS 1974 (Including Amendments)
  - MARPOL 73/78 (Including Amendments)

**Operating conditions:**
- **Transit:**
  - **Drift:** 11m
  - **Height:** 18m
  - **Length:** 18m
- **Storm:**
  - **Displacement:** 27,256t
  - **Height to main deck:** 34,582t
  - **Height to drillfloor:** 34,582t
- **Drilling:**
  - **Variable deck load:** 4,500t
  - **Height:** 6,000t
  - **Length:** 6,000t

**Drillfloor and substructure:**
- **Dynamic derrick rated 1500 kip**
- **Setback:** 600 kip under tow
- **Crown compensator:**
  - **Active:** 600 kip
  - **Locked:** 750 kip
- **Top Drive:**
  - **TDS 4-5 750st**
- **Combination iron roughneck/racking system**
- **Drawworks:** 3000hp
- **Hydraulic rotary:** 60in
- **Substructure:** 3000 kip

**Mud System:**
- **Liquid mud Active main deck:** 4200bbl
- **Reserve columns:** 5500bbl
- **Brine tanks:** 8000bbl
- **Base oil:** 4000bbl
- **Bulk materials:Cement & Mud:** 20,000bbl
- **Sack Storage:** 8000 sacks
- **Mud pumps:** 3 x 7500psi
- **Lightship:** 17,820t
- **Steel weight:** 10,500t

**Contact**
Bennett & Associates LLC