REVISED
1:32 pm, Feb 26, 2012

- Minimize setup time. All solid ballast has been installed prior to tow out. Water ballast is added to hold the structure in place.

The SSGB provides an economical solution to the challenges of exploration and hydrocarbon production in iceberg infested waters.

3.3.1.4 Cook Inlet

To date, a total of 16 jacket structures have been installed at the Inlet using three structural concepts; the monopod, the tripod and the quadpod. The first of these structures was installed in 1964 and the last in 1986.

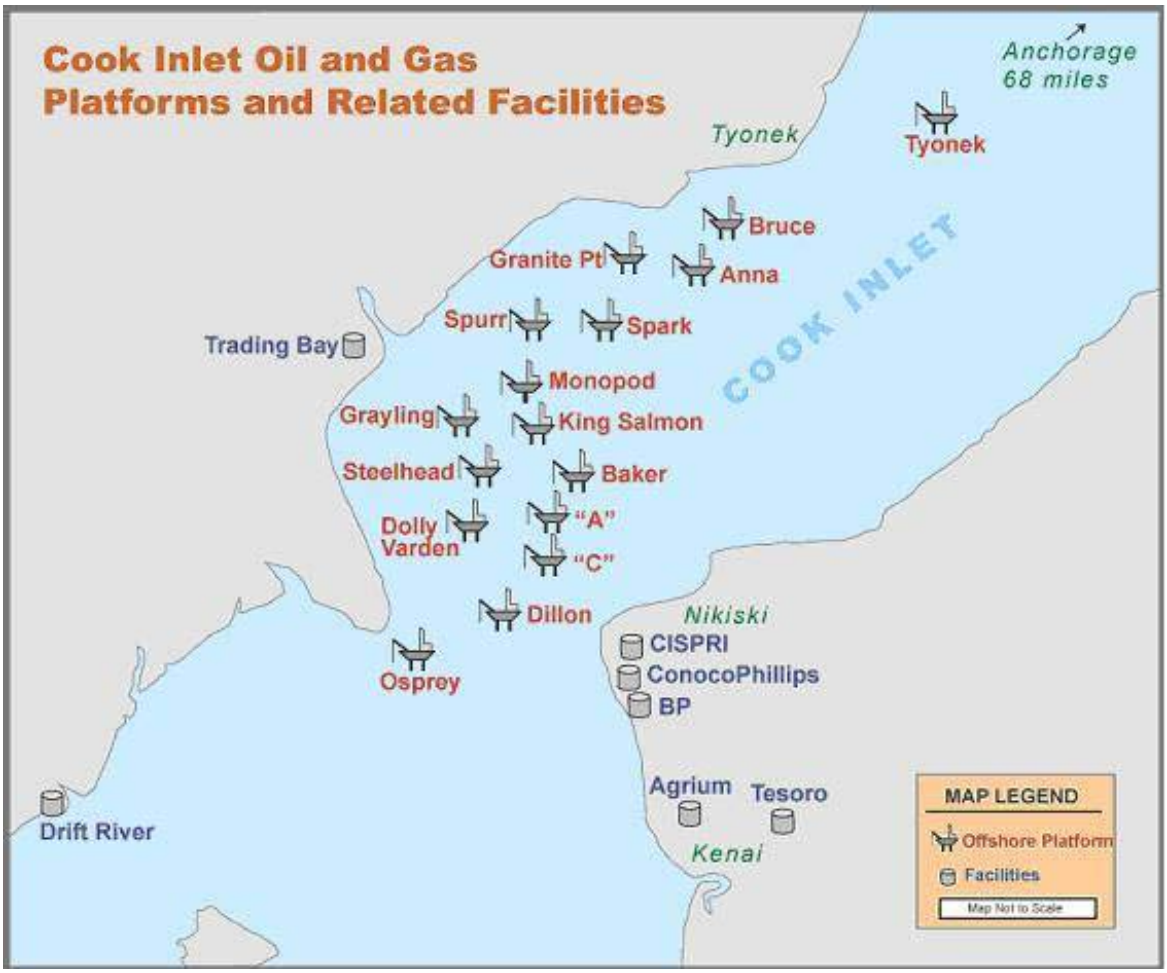

Figure 3-12: Cook Inlet Infrastructure (CIRCAC, 2007)

Table 3-3: Summary of Cook Inlet Platforms (CIRCAC, 2007)

Summary of Cook Inlet Platforms													
Platform Name	Type	Design Ice Thick, ft (m)	Wave		Wind Velocity, MPH (km/h)	Earth-quake (g)	Current, ft/s (m/s)	Leg Dia., ft (m)	Water Depth, ft (m)	Year	Designer	Jacket Wt, tons (tonnes)	Deck Wt, tons (tonnes)
			Height, ft (m)	Period (Sec)									
Anna	Quadpod	2.8 (0.9)	30 (9)	9	80 (129)	0.1	10 (3)	14 (4.3)	77 (23.5)	1966	Earl & Wright	1515 (1374)	1200 (1089)
A	Quadpod	6 (1.8)	41.5 (12.6)	10.8	65 (105)	0.15	10 (3)	14.6 (4.5)	83 (25)	1964	Earl & Wright	N/A	N/A
Baker	Quadpod	2.8 (0.9)	30 (9)	9	80 (129)	0.1	10 (3)	14 (4.3)	102 (31)	1965	Earl & Wright	2533 (2298)	N/A
Bruce	Quadpod	2.8 (0.9)	30 (9)	9	80 (129)	0.1	10 (3)	14 (4.3)	62 (19)	1966	Earl & Wright	1415 (1284)	1200 (1089)
C	Quadpod	3.5 (1.1)	28 (8.5)	8.5	65 (105)	0.06	12 (3.7)	15.5 (4.7)	73 (22)	1967	Earl & Wright	N/A	N/A
Granite Point	Quadpod	5 (1.5)	28 (8.5)	N/A	N/A	N/A	13.5 (4.1)	17 (5.2)	75 (23)	1966	Brown & Root	3400 (3084)	N/A
Grayling	Quadpod	6 (1.8)	28 (8.5)	8.5	100 (161)	0.1	10 (3)	17 (5.2)	125 (38)	1967	Brown & Root	3550 (3221)	N/A
King Salmon	Quadpod	3.5 (1.1)	28 (8.5)	8.5	65 (105)	0.06	12 (3.7)	15.5 (4.7)	73 (22)	1967	Earl & Wright	1585 (1438)	1200 (1089)
Monopod	Monopod	6 (1.8)	28 (8.5)	8.5	100 (161)	0.06	10 (3)	28.5 (8.7)	66 (20)	1966	Brown & Root	6000 (5443)	N/A
Spark	Tripod	3.5 (1.1)	28 (8.5)	8.5	60 (97)	N/A	10 (3)	13 (4.0)	62 (19)	1968	McDermott	N/A	N/A
Spurr	Tripod	3.5 (1.1)	28 (8.5)	8.5	60 (97)	N/A	10 (3)	13 (4.0)	67 (20)	1968	McDermott	N/A	N/A
Steelhead	Quadpod	4.2 (1.3)	28 (8.5)	8.5	80 (129)	N/A	12.6 (3.8)	18 (5.5)	183 (56)	1986	McDermott	N/A	N/A
Tyonek	Quadpod	2.8 (0.9)	27.5 (8.4)	8.5	80 (129)	0.1	10.1 (3.1)	14 (4.3)	100 (30)	1968	McDermott	N/A	N/A
Dillion	Quadpod	2.8 (0.9)	30 (9)	9	80 (129)	0.1	10 (3)	14 (4.3)	92 (28)	1967	Earl & Wright	1585 (1438)	1200 (1089)
Dolly Varden	Quadpod	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Osprey	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A Not Available

The Inlet's jacket structures have been designed using a variety of ice loads, wave heights and water depths:

- Ice thickness varying from 2.8 to 6 ft (0.9 to 1.9 m) with a crushing strength of 300 psi (2.1 MPa);
- Design wave heights from 28 to 41 ft (8.5 to 12.5 m); and,
- Design depths from 62 to 183 ft (19 to 56 m).

The load variation is dependent on the structure's specific location, the designer's interpretation and application of the available metocean data, and the designer's understanding of jacket structural responses to sea ice loading. An online database of the Inlet's structures can be accessed from the Cook Inlet Regional Citizens Advisory Council website (CIRCAC, 2007).

The fixed jacket structures designed for Cook Inlet's environment differ from conventional jacket structures in several ways:

- Partially constructed from low temperature steel;
- The jacket systems are composed of very large ice reinforced legs with diameters in excess of 14 ft (4.3 m);
- The jacket bracing is located several feet below the water line. This protects the bracing from ice impacts and prevents ice bridging; and,
- The jackets use an X-bracing system rather then K type bracing (Figure 3-13 and Figure 3-14). This provides additional load paths in the event of a member failure.

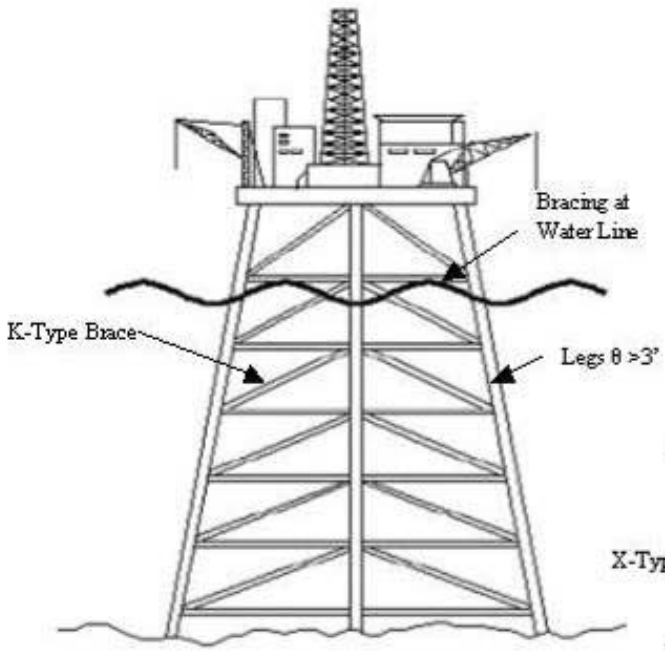

Figure 3-13: Conventional Jacket Structure (OOP, 2007)

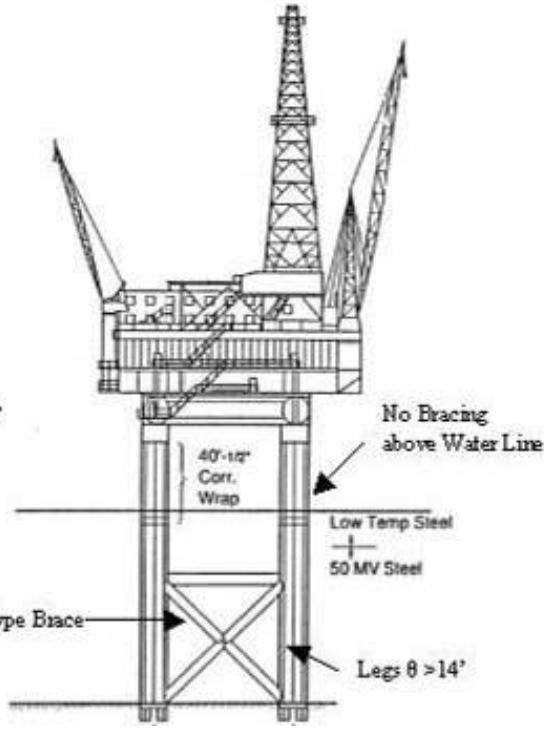

Figure 3-14: Cook Inlet Jacket Structure (CIRCAC, 2007)