



BOEMRE Panel Discussion September 13, 2010 Lafayette, Louisiana

### **An American Success Story**



#### **GOM Deepwater - World's Leading Innovation Basin**

Helix has gone from a small, start-up dive contractor to a leader in deepwater technology in just 20 years. It has invested in some very unique and forward-looking innovations, including the Q4000 and the Helix Producer 1, meeting needs unforeseen by larger Operators. If Congress and regulatory agencies impose unworkable regulatory burdens (e.g., unlimited liability, unattainable financial security requirements, unworkable US construction or crewing requirements) you won't have any more success stories like Helix -- you will drive out smaller companies and cut off the sort of creativity and offshore technical innovation that companies like Helix have created.



Wellbore Drilling

Wellhead Installation

Pipeline / Flowline / Umbilical Installation

PLET / Manifold Installation

Jumper Installation



Trenching and Burial

Well Intervention

**ROV Services** 

Decommissioning, Plug & Abandonment

Wellhead / Tree Recovery

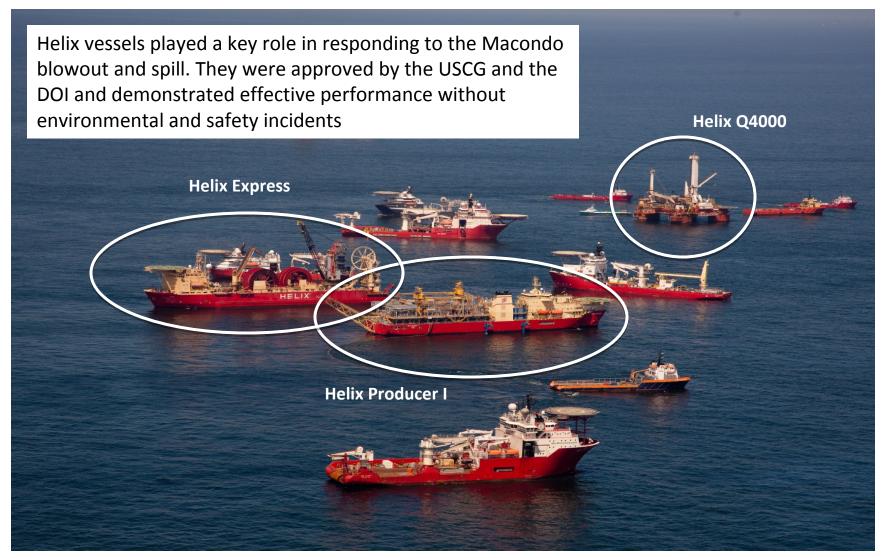
### **Setting the Stage**



- Helix Energy Solutions Group, Inc. is a publicly traded US company involved in subsea construction, well intervention and robotics services on a global level (GOM, North Sea, West Africa, South East Asia) and is also an oil & gas producer in the GOM. Helix has approximately 1,600 employees and 400 full-time contractors.
- The country, the oil Industry and Helix has been negatively impacted by the Macondo incident and the subsequent cloud of uncertainty covering GOM oil & gas production. The future of Helix's GOM Deepwater E&P company and GOM contracting business is negatively impacted and jobs of Helix employees and full-time contractors are at stake if Drilling Moratorium is not lifted in timely manner and / or drilling permits are not granted; however pale compared with the number of US jobs at risk.
- Helix has played an active role in supporting BP and the UAC in the Macondo response with its vessels Helix Q4000, Helix Producer I and the Express, as well as assigning employees to the BP crisis center.
- Helix has been in discussion with a large number of Independent Operators in the GOM and BP to make the Helix Q4000 and Helix Producer I available as part of a near term Industry Fast Response Containment System. Helix assets should be part of the Industry short term and long term solution.
- Helix is committed to <u>making the Helix Q4000 and the Helix Producer 1 available</u> as part of both a near and long term Industry Fast Response Containment System that would go a long way towards addressing the response needs.
- Containment is only required if well integrity concerns (known unknowns) resulting in fear of an underground blowout prevent the well to be shut-in until diagnostics and / or reservoir depletion allow the well to be capped.

### **Helix Vessels at Macondo**



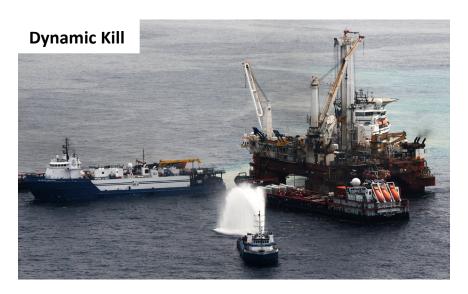


# Helix Q4000



# **Q4000 Macondo Response**











- Arrived in staging area within 3 days of call-off
- Multi functional and ease of adaptability between operating modes
  - Containment
  - Dynamic Kill
  - Flaring
  - Static Kill
  - Recovery
  - Control platform for LMRP/BOP yellow pod

## **DP 2 FPS Helix Producer I**



## **HPI Macondo Deployment**



Called to action on June 12, 2010. Departed Phoenix / Typhoon location in GC237 within 2 days and was operational in MC252 30 days later. Helix plans to make permanent modifications to the HPI to shorten response time from 30 to 10 days.



270 te. Buoy designed and built in two weeks..

#### **Our goals**

- Call-off on Day 1
- Response time of 10 days from call-off to in-service

#### **HPI Modifications for Macondo**

- Fabrication of new buoy
- Fabrication of water curtain system to cool the flare boom
- Fabrication of off-loading systems

#### **Future Response**

- •HPI is GOM based and is the best suited vessel for hydrocarbon containment
- •Key is to keep the vessel in the GOM and make permanent modifications to meet response time goal

## **MSV DP2 Express**





- 520 foot long DP2 reel lay vessel
- Reels hold 3,000 tons of rigid steel pipe up to 14 inches in diameter
- Open deck allows the vessel to carry multiple reels of flexible flowlines
- 450 Te. deck crane; 250 Te., A&R cable and 150 Te. AHC deepwater crane capable of reaching 10,000 ft.

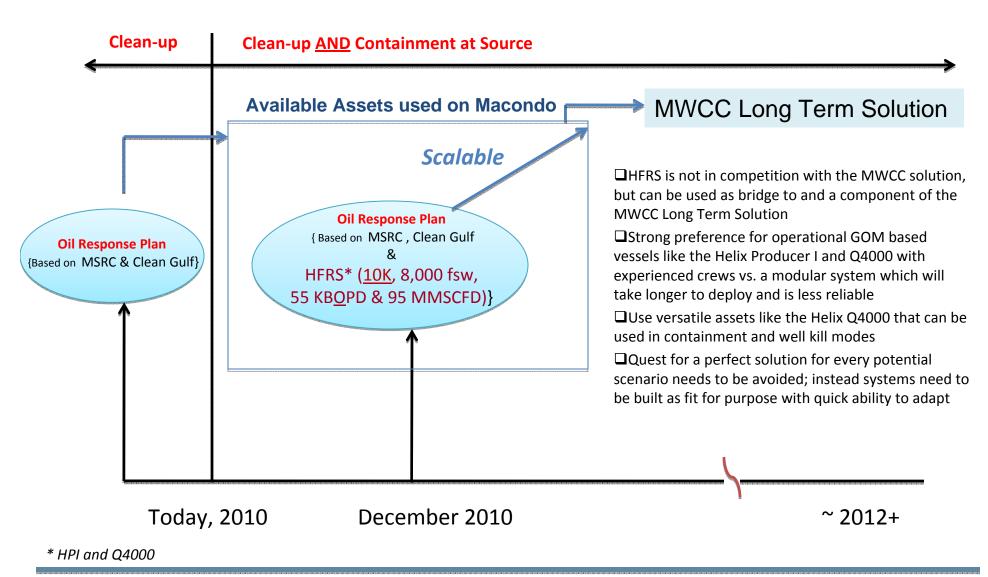
# **Helix Fast Response System (HFRS)**



- Operators have requested Helix to make the Q4000 and HPI available as part of a readily deployable Helix fast response system (HFRS) to contain and / or minimize oil pollution in another Macondo like incident.
- Helix needs to invest approx. \$25 MM to make certain modifications to the Q4000 and Helix Producer I and subsea components to shorten the response time to 10 days and increase capacity and capabilities.
- Helix has requested funding from these Operators ("Participants") in return for the right to use the
  HFSR as the containment plan in drilling permit applications. Helix is committed to making these
  two key assets available to these Participants as fast response vessels in the near term without
  retainer.
- Operators are concerned about making the funding commitment in light of the regulatory uncertainty. Operators are looking for a fit for purpose industry solution that is endorsed by the regulators. Helix is now funding critical path items while working with Operators to secure the capital required to make the modification to the Q4000 and HPI to shorten Industry response time.
- If regulatory requirements either prevent independent operators or make it commercially unviable to operate in the GOM then these companies (who own more than 50% of GOM deepwater leases!), contractors, assets, and key response capabilities will likely move overseas and US domestic production and associated jobs will be negatively impacted.
- With the required funding in place the HFSR will be ready to respond in December 2010.

## **Helix Fast Response System (HFRS)**

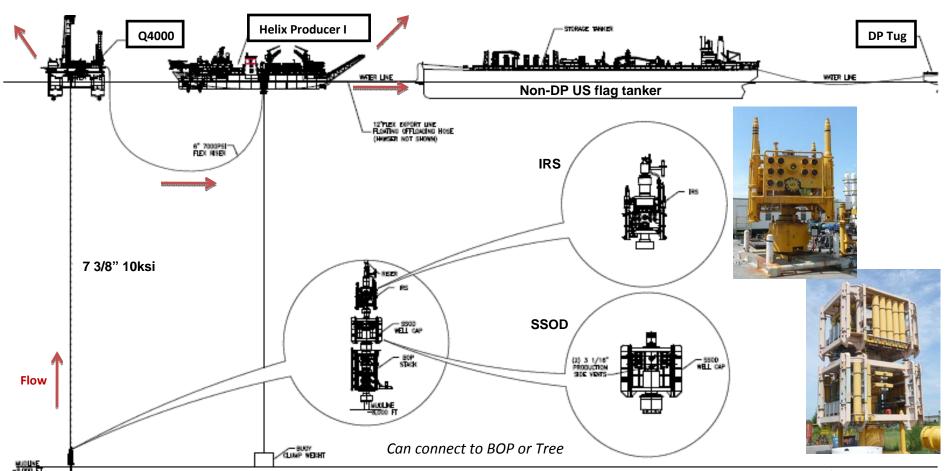




# **Helix Fast Response System 2010**



### Target in-service date of 10 days from call-out



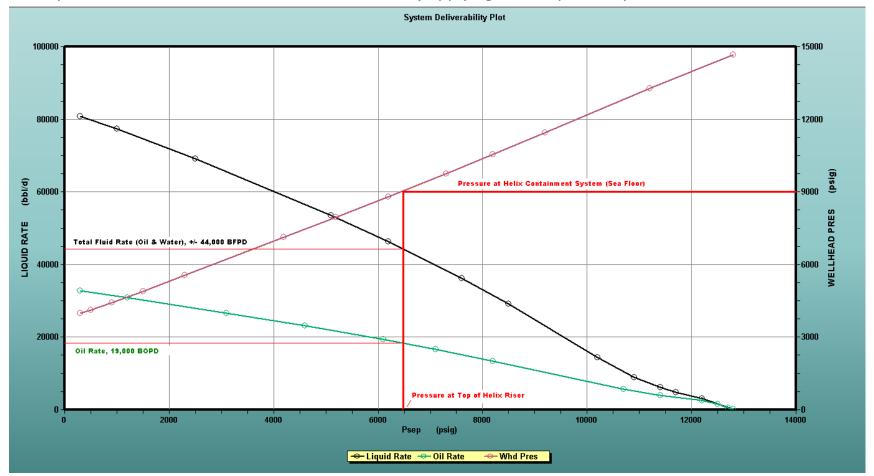
13 5/8" 10ksi dual rams 18 ¾" 10ksi H4 connector

The system is scheduled to be ready in Dec 2010. All major components (except SSOD) are proven

# **Containment Capacity Required << Well WCD**



Real scenario of deepwater Miocene well: WCD = 92,000 BPD liquid (38,000 BOPD). Helix containment system reduces overall liquid flow to 44,000 BPD and oil to 19,000 BPD by applying a 6,500 psi back pressure at the Q4000



Open hole flow rate as parameter to size containment response capacity is not correct

# **Paralyzed Industry**



#### **Uncertainty**

- Regulatory requirements
  - WCD calculation?
  - Clean-up capacity and response time?
  - Role of containment?
- Bonding / Financial requirements
  - Liability cap / ability of buy insurance / bond?
  - Net worth requirement?

#### •MWCC

- Scope?
- Cost & benefit ?
- Access?
- Level of participation?
- Governance?
- Organizational structure (under CGA or MWCC, or other?)

#### **Worst Case Containment Needs**

Assets used on Macondo already provide a significant portion of the solution

#### Pragmatic view:

What size and redundancy of pre-staged containment solution is a reasonable requirement, especially in light of the increased focus on prevention?

# **Containment CAPEX vs. Capacity**





We need to cooperate and make key vessels available in a pre-engineered response plan vs. building new vessels that will be standing by at a high capital and operating cost

Higher LOE

Containment assets HPI and Q4000

Capacity

<u>Important:</u> Required well containment capacity is significant less than well WCD!

# **Deepwater Response – A Global Effort**



Proposed changes to law and regulations which have already passed in the House could result in the departure of <u>foreign flag vessels</u> from the GOM. Without foreign flag vessels the response to Macondo...



## **Deepwater Response – A Global Effort**



Would have looked like this......



..... Just the Helix MSV Q4000 and supply vessels would have been available

Without foreign flag / owned vessels there is no ability adequately to respond to deepwater spills.

## **Key Take-Aways**



- <u>The Helix Q4000 and Helix Producer I are GOM based and uniquely capable</u> to respond to future subsea spills under any type of umbrella organization. These assets used at Macondo already constitute a <u>significant portion of any containment solution</u>.
- Helix is seeking industry participation to make the necessary permanent modifications to the Helix Q4000 and Helix Producer I to shorten response time and increase capabilities. However, the regulatory uncertainty is impeding Helix's ability to obtain this funding.
- HFRS is not in competition with the MWCC solution, but the assets can be used as a bridge to and a
  part of the MWCC Long Term Solution. <u>Helix is also willing to invest in a new HP1</u> on an
  opportunistic basis to be used in the GOM for well testing, production and spill containment.
- A pragmatic approach must be taken as to how much containment capacity and redundancy is actually needed (especially with increased focus on prevention): <u>Remember, required well</u> containment capacity is << well WCD</li>
- The quest for a perfect solution for every conceivable scenario needs to be avoided; instead, focus should be on systems with quick ability to adapt and respond. Perfect is the enemy of good.
- Cloud of regulatory uncertainty has paralyzed industry and threatens departure of key response vessels from the GOM. <u>This problem is exacerbated if foreign flag vessels are not permitted to work</u> <u>in the GOM.</u>

Less Drilling in GOM → Less US Jobs and higher commodity prices and greater energy dependence