



An Effective Regulatory Environment Starts with Collaboration

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Odum earned a bachelor's degree in mechanical engineering from The University of Texas at Austin and a master's degree in business administration from the University of Houston. He began his Shell career as an engineer in 1982, and has since served in a number of management positions of increasing responsibility in both technical and commercial aspects of energy.

Introduction

Good morning. Thank you for having me.

Let me start off by saying that, on behalf of the more than 90,000 Shell employees in 90 countries around the world, I have tremendous respect for IRF and the work you do.

It's both an honor and a privilege for me to be part of this event and to have been asked to provide the industry voice here today.

In particular, I'd like to thank Steering Committee Chair Magne Ognedal and Program Committee Chair Steve Walker.

I'd also like to thank Odd-Bjerre Finnestad and Norway's Petroleum Safety Authority for hosting this conference and for their leadership on offshore safety issues.

Magne and Odd have been pillars of the IRF since it was founded in 1994.

And, as I understand it, they are the only two people to have participated in *every* IRF meeting since.

Their institutional knowledge and perspective are extremely valuable to all of us as we have important discussions over the next two days.

Finally, I'd like to recognize Steve Walker and Jan De Jong for their leadership on standards issues.

Their work is a reflection of the fact that our standards will only be as good as the effort we put into them.

It is up to all of us – operators, regulators and contractors – to make a collective commitment to participate fully in the standards development process.

And a "collective commitment" or, said another way, "collaboration," is precisely what I want to talk with you about today.

Importance of Collaboration

If you think about it, collaboration is really a mindset. It's a way of viewing the world. It's a process, not an event.

Henry Ford may have said it best when he said, "Coming together is a beginning, staying together is progress, and working together is success."

When it comes to the regulatory environment in the global oil and gas industry, that perspective really resonates.

At Shell, I like to think we do a pretty good job of welcoming, inviting and *even creating* opportunities to work in partnership with anyone who can help us do what we do better.

I also like to think we do a pretty good job of taking a long-term view of our industry... and then using what we know to understand the world's future energy needs and how we can help meet them.

We see effective regulations, and solid working relationships with global regulatory bodies, as critical components of our ability to do this.

It's important. Because, simply put, energy is the capacity to do work. And the capacity to do work is the capacity to build better lives.

We live in a world where more and more people are aspiring to build those better lives.

Global energy demand is expected to double by 2050. The world's population at that point in time will exceed 9 billion

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people – *triple* what it was just 50 years ago.

Our scenario planners tell us that by 2050, we could be looking at a gap between energy supply and demand that is almost equal to the size of the industry's *entire* output just 10 years ago.

We describe this gap, this tension between supply and demand, as a "zone of uncertainty."

It's uncertain because the energy decisions we're making today will determine tomorrow's landscape.

And there's a lot that remains unsettled in terms of how we're going to confront some of the unsustainable realities in front of us.

I mentioned population growth. This growth comes with an improving standard of living for millions of people. *This is good*. But it will stress our energy resources in ways we are not yet prepared to handle.

It will also stress the market's ability to supply energy at an affordable price – creating a tension between nations and contributing to geopolitical instability.

At the same time, environmental pressures demand that we find ways to reduce CO₂ and to leave less of an impact when we extract and use our resources.

That's why Shell is working on what we can do *today* to contribute to a sustainable energy future.

We also know it's going to take a whole new level of collaboration and leadership to develop workable policies and solutions.

But looking at the political environment today, attaining this level of partnership remains a challenge.

We have a huge opportunity to address the "zone of uncertainty" in ways that avoid unnecessary trade-offs and sacrifices.

And we should all see it that way: as an opportunity.

Capitalizing on it depends on promoting economical, safer, more responsible oil and gas exploration and production.

It depends on us – regulators, operators and contractors – working *together* to do what our constituencies are depending on us to do and holding ourselves to our own high standards.

Safety

I'd like to say we get it right all the time at Shell, but that's not the case of any company or any organization.

What I *can* say is that we understand the stakes ... and that collaboration is a cornerstone of our approach to operating safely and responsibly.

It begins at the top.

Our leadership team, our Chairman and I, along with my colleagues around the world, are in constant communication about the safety culture we must have to operate as the responsible company that we are and that we aspire to be.

Perhaps the clearest statement about the culture we aim to build comes in the core expectations we have of everyone who works for Shell – our Golden Rules:

- Comply with the rules
- Intervene when it feels wrong
- And respect people, the environment and our neighbors

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We set clear and firm rules that are designed to protect the personal safety of our employees and contractors. We expect our people to know them and apply them.

We also establish rules to ensure the safety and integrity of our operations and assets as well as the communities and environments around us.

Defined rules are important. And, at Shell, they've been effective:

- We achieved our best-ever personal safety performance in 2010, with our lowest-ever rate of injuries per million working hours.
- Our Pearl GTL project in Qatar, which was completed this year, recorded 77 million man-hours worked without an incident.
- And in 2010, the number of operational spills was 75 percent less than in 2002. *[Note: This data excludes sabotage-related spills in Nigeria.]*

But rules and regulations aside, having all the right systems and tools in place to manage and reduce risks is not enough.

An organization's systems, processes and culture must all work together.

Unfortunately, sometimes the truest test of how well an organization is integrating these three things comes during an actual incident.

While the incident was regrettable, our response to the Gannet pipeline leak actually showcased a number of things that we're doing correctly.

When we first learned that something had gone wrong, we put every appropriate technical measure in place.

We immediately notified the appropriate agencies and worked with them to address the situation.

Though it was impossible to quantify the extent of the leak in those early hours, our initial spill response was quick, decisive and effective.

Our actions to isolate were immediately successful, and the volume of oil leaked was reduced to a minimal level within 48 hours.

A recent analysis conducted by Marine Scotland showed that, thankfully, there was no impact on marine life or wildlife.

We will apply any relevant findings from this incident across our operations at Shell, and we will also share them with others in the industry.

The fact of the matter is this: We are continually looking for opportunities to get better. This includes looking at incidents that occur on other operators' projects – for example, the Macondo spill.

Though there are things that precipitated that incident that we work very hard to prevent on our projects, we assessed the situation and immediately applied what we learned to our operations plans around the world.

We are one of the founding members of the Marine Well Containment Company, which was formed after the spill to focus on intervention capabilities in the Gulf of Mexico.

We are also a key contributor and supporter of the Center for Offshore Safety – a “for the industry, by the industry” organization.

It's a U.S. initiative, but with a number of global corporations as members, its sole focus is improving safety within the

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deepwater industry as a whole. The Center for Offshore Safety will collaborate internationally in its work to continuously improve safety and environmental management systems.

We are also the lead operator of the Subsea Well Response Project, located here in Stavanger.

This project is a collaborative effort among nine major companies working to increase the intervention capability of the industry at a global level.

This is all excellent and important work. But there is always more we can do.

We have several projects underway that enhance our technological ability to respond to incidents.

One of these is a joint project with NOV and Noble Drilling.

The project's focus is on developing automatic systems that sense and activate blow-out preventers (BOPs) in the wake of possible well control situations, should the automatic sensors detect – for example – an increase flow or pressure from the well.

We also have several ongoing R&D projects.

For example, one is a Collapsible Insert Device (CID) project that involves the use of pyrotechnics to form an engineered collapse of a deep set internal insert in the casing.

An encrypted acoustic signal travels through the pipe to activate the system and can be controlled from the vessel or remotely during an emergency.

Collapsing the insert achieves a major reduction or complete shut off of the well flow. Casing integrity is maintained at all

times, and the well is recoverable by milling out the insert.

Another project is a Well Emergency Separation (WES) project.

In this case, the use of pyrotechnic-based components allows severing of any equipment across the BOP by a device positioned immediately above the flex joint of the subsea BOP.

We are developing these technologies, not because there's a rule requiring us to do so, or because any regulatory agency said we needed to, but because we believe in the continual application of technology to improve safety and reduce risks.

More than believe in it, we *invest* in it and we know it's the right thing to do.

Current Challenges

Even with these new industry standards and technological improvements, in some parts of the world we face challenges, from a policy perspective, that threaten our ability to operate.

The nature of our industry means that when our ability to operate is threatened in one corner of the world, the effects are often felt globally.

For example, in the U.S., the post-Macondo moratorium and new regulatory process are still impacting production and, therefore, markets worldwide.

No matter your opinion of the moratorium, it was long and painful, both in terms of jobs and economic losses.

The moratorium was lifted about a year ago, with the first post-moratorium offshore exploration plan approval coming six months after that.

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We're proud that the first new exploration plan issued in the Gulf was granted to Shell for our Cardamom project in 2,700 feet of water.

I believe a major part of the reason our Cardamom plans were approved is because of our approach to safety and our offshore operating principles and practices.

They allowed us to meet the full requirements of the new regulations and demonstrate that we could prevent accidents and mitigate environmental impacts.

There are many more exploration and development opportunities out there, with tens of billions in investment opportunity that can lift economies, increase the supply of secure energy and create jobs.

We can pursue them safely ... and we intend to.

An example: Shell now has six rigs back to work in the Gulf of Mexico.

Allow me to pause for a moment and say that – without question – Shell has great appreciation for the hard work of Director Michael Bromwich and his staff in reviewing our plans and permits in the Gulf of Mexico, and we look forward to sustaining this performance with the newly reorganized bureaus.

It is our belief that both the industry and the U.S. regulator want to improve beyond “just in time” permits to a situation where approvals arrive consistently and predictably.

It's also our belief that operators have a big role to play in the efficiency of the permitting process by ensuring that our applications are accurate and complete.

At Shell we are implementing a process that we call “Perfect Permitting.”

The effort is three-fold, focusing on integration, continuous improvement and regulatory engagement.

First, we ensure there are clear lines of responsibility for the staff who prepare the permit applications. This includes engineers and a number of other disciplines, with clear integration among those working the process.

Second, we now also have an explicit system to share and incorporate learnings from prior permit submissions so that we continuously drive down the number of recycle events.

And finally, we proactively engage the Bureau and review new operational procedures to enable a dialogue with regulators regarding proposed operations prior to submitting the permit.

We believe “Perfect Permitting” will help us realize a more efficient interaction with our regulator, and this is supported by our experience to date.

On the government side of the equation, we believe there is room for improvement as well.

Specifically, in the U.S., we worry about the offshore regulator losing momentum, in both the Gulf of Mexico and Alaska, as the agency reorganizes in the coming months.

And, I believe the more significant issue is that regulators need to have sufficient staffing in place – both in terms of numbers and expertise – so that they are prepared to handle the volume of applications and can deliver permits that are robust against legal challenges.

In the U.S. the regulator has made it clear to legislators that agency funding must be increased to accomplish this, and we support this action.

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Working together and providing sufficient resources to the regulators will enable both the confidence required for investment decisions and safe operations.

The Hallmarks of Effective Safety Regulation

So, where do we go from here? At the risk of over-simplifying it: effective safety regulations have these hallmarks:

- They're performance-based...
- They're locally relevant...
- They're created by best practice sharing...
- And they are improved over time.

While the international community has taken steps in the right direction, there are areas where we can do better.

We should ask, what are we doing to really spur innovation? What are we doing to take safe operations to the next level?

I think the answer lies in three parts: **focus, consistency and speed.**

Operators and regulators need to focus on what we do best... and then do it.

Shell believes the role of the regulator is – among other things – to challenge the industry and spur innovation; to set high standards and demand continuous improvement; to monitor our performance and hold us accountable.

To do this well, regulators must cooperate with one another and share best practices. They have to set universal safety goals but work locally on their practical application to local conditions.

One of the things that Shell brings to the table is that, since we operate around

the world, we see and interact with regulators of all stripes.

And what we see is that when regulators work closely with national associations, and with engaged industry partners, those relationships produce effective regulatory climates.

This is why the work of IRF, and organizations like it, is so important.

There are some today who are proposing new, global coalitions to govern the offshore energy industry.

In our view, landing on the correct approach is for others to decide. But the overarching, imperative principles, including collaboration, remain the same.

Second, I would ask that regulators be more consistent in the way standards are incorporated and used.

Clearly there should be a prescriptive base to regulation. But regulation should move more to a goal-setting regime in which standards are used by the operators and referenced and applied in preparing safety cases and developing safety management programs.

On the other side of the equation, operators must make optimal use of our standards programs so that we can keep raising the performance bar by continuously improving those standards – not sticking to the comfortable status quo.

Perhaps nowhere is the need for consistency more apparent – *or more important* – than in the arena of prevention.

The IRF, OGP, IADC, API and others have done a good job of collecting certain incident data after accidents, but our goal should be to collect complete

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information for the entire offshore industry.

In that regard, Shell strongly supports the finding from last year's IRF conference in Vancouver calling for a comprehensive and verified international incident database.

OGP's Well Expert Committee (WEC) has begun the important task of gathering and analyzing all well incident data.

I'd like to propose that the IRF work closely with the WEC and with the OGP, and then align with the new Center for Offshore Safety in the U.S. to create one, common global system to track such data.

The national standards organizations and ISO should use the data to determine what new standards or standards enhancements are necessary to address major hazards.

Further, standards organizations must work together to advance the development and use of international standards – and then entrust local authorities to craft the appropriate regulations.

Third, we must renew and maintain a commitment to speed.

Delivering the energy that tomorrow's world will demand of us only gets more difficult the longer we wait to access the resources that we know about ... and the ones we've yet to discover.

Swift and decisive regulatory approvals and reviews do not have to come at the expense of quality and safety – and they shouldn't.

On the contrary, we believe the most effective regulatory regimes are also the most efficient.

We applaud the decision of the Australian government, for instance, to consolidate safety and pollution prevention into a single authority – a good example of regulators improving safety and using their authority to bring efficiency to the process, making it better for all involved.

Conclusion

I'm an optimist. I believe operators, contractors and regulators agree more than we disagree.

We share a commitment to doing the right thing. Sometimes we just differ on how to get there. But we don't differ in ways that are insurmountable.

Regulators want operators to minimize risk...that's justifiable and important.

Operators want the freedom to use approaches that they believe will safely achieve optimal results.

That's justifiable, too.

After all, we know where the opportunities for improvement lie. We know what technology says we should be able to do, and how we should be able to operate.

Irresponsible operators and contractors, or those who do not hold safety as a value, are a risk to our entire industry.

We are all better served when their actions are stopped and their behavior is corrected.

I don't think I'll find much disagreement in the room with that statement or with this one: There has never been a more important time to be involved in the industry we are a part of.

We're facing unprecedented challenges against a backdrop of volatile change.

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The stakes are high, but the opportunity is tremendous.

The world's energy system is in the early stages of a fundamental transformation.

It is shifting to a future of cleaner fossil fuels and expanded use of renewable energy. And going forward, we're going to need more of both.

Meeting that need lies with us. The important roles we each play are pivotal ones. And performing well in these roles is essential.

Let's share what we know and work in partnership.

Let's focus on what we each do best, strive for collaboration, consistency and quality and move as quickly as we can.

Let's challenge each other, hold ourselves to a higher standard and continuously get better.

Thank you for hosting this important conference and for providing me with the opportunity to speak to you this morning.

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"Let's challenge each other, hold ourselves to a higher standard and continuously get better."

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