



2.

The information provided herein is based upon my personal knowledge.

3.

I was identified by the National Academy of Engineering to peer review the Secretary of the U.S. Department of the Interior's May 27, 2010 Report, entitled "Increased Safety Measures For Energy Development On The Outer Continental Shelf" (the "Report").

4.

I reviewed a draft of the Report.

5.

Attached to this Affidavit are true and correct copies of a statement and document attached thereto, entitled "The Primary Recommendation in the May 27, 2010 report, 'INCREASED SAFETY MEASURES FOR ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF' Given by Secretary Salazar to The President Misrepresents our Position," addressed and faxed to Louisiana Governor Jindal, Senator Landrieu, and Senator Vitter on behalf of me and others identified in the Report. Copies of the statement and the document are attached hereto as Exhibits A and B.

6.

I did not "peer review" the blanket moratorium set forth in the "Executive Summary" of the Report. The blanket moratorium was added after final review and was never agreed to by me.

7.

The scope of the blanket moratorium in the "Executive Summary" of the Report differs in important ways from the recommendation in the draft of the Report which I reviewed.

8.

The Report does not justify the blanket moratorium

9.

I disagree with the six month blanket moratorium.

10.

The blanket moratorium does not address the specific causes of the Deepwater Horizon Incident and will not measurably reduce risk further. An argument can be made that the blanket moratorium set forth in the "Executive Summary" of the Report is counterproductive to long term safety.

11.

The blanket moratorium will have the indirect effect of harming thousands of workers and further impact state and local economies suffering from the spill. It will have a lasting impact on the nation's economy that may be greater than that of the oil spill. I do not believe that punishing the innocent is the right thing to do.

12.

In reviewing the draft Report, I considered the MMS Deepwater Drilling Rig Inspection report (the "Post-Incident Inspection Report"). A true and correct copy of the Post-Incident Inspection Report is attached to this Affidavit as Exhibit C.

I declare that the foregoing is true and correct.

*Harve P. Furkan Wald*

SWORN TO AND SUBSCRIBED BEFORE  
ME THIS 15 DAY OF JUNE, 2010.

*Kathy Balch*



Fax to: Gov. Jindal: 225-342-7099  
Senator Landrieu: 202-224-9735  
Senator Vitter: 202-228-5061

From: Kenneth E. Arnold, PE, NAE  
3031 Shadowdale  
Houston Texas 77043  
832-212-0160

cc. Dr. Robert Bea, Department of Civil and Environmental  
Engineering, Univeristy of California at Berkeley

Dr. Benton Baugh, President, Radoil, Inc.

Ford Brett, Managing Director, Petroskills

Dr. Martin Chenevert, Senior Lecturer and Director of  
Drilling Research Program, Department of  
Petroleum and Geophysical Engineering,  
University of Texas

Dr. Hans Juvkam-Wold, Professor Emeritus, Petroleum  
Engineering, Texas A&M University

Dr. E.G. (Skip) Ward, Associate Director, Offshore  
Technology Research Center, Texas A&M  
University

Thomas E. Williams, The Environmentally Friendly  
Drilling Project

A group of those named in the Secretary of Interior's Report, "**INCREASED SAFETY MEASURES FOR ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF**" dated May 27, 2010 are concerned that our names are connected with the moratorium as proposed in the executive summary of that report. There is an implication that we have somehow agreed to or "**peer reviewed**" the main recommendation of that report. **This is not the case.**

As outlined in the attached document, we believe the report itself is very well done and includes some important recommendations which we support. However, the scope of the moratorium on drilling which is in the executive

summary differs in important ways from the recommendation in the draft which we reviewed. We believe the report does not justify the moratorium as written and that the moratorium as changed will not contribute measurably to increased safety and will have immediate and long term economic effects. Indeed an argument can be made that the changes made in the wording are counterproductive to long term safety.

The Secretary should be free to recommend whatever he thinks is correct, but he should not be free to use our names to justify his political decisions.

## **The Primary Recommendation in the May 27, 2010 report, “INCREASED SAFETY MEASURES FOR ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF” Given by Secretary Salazar to The President Misrepresents our Position**

The National Academy of Engineering recommended us as contributors and reviewers of the recent Department of Interior "30 Day Review" of the BP Oil Spill. We were chosen because of our extensive petroleum industry expertise, and independent perspectives. The report states:

“The recommendations contained in this report have been peer-reviewed by seven experts identified by the National Academy of Engineering. Those experts, who volunteered their time and expertise, are identified in Appendix 1. The Department also consulted with a wide range of experts from government, academia and industry.”

The BP Macondo blow out was a tragedy for eleven families, and an environmental disaster of worldwide scale. We believe the blowout was caused by a complex and highly improbable chain of human errors coupled with several equipment failures and was preventable. The petroleum industry will learn from this; it can and will do better. We should not be satisfied until there are no deaths and no environmental impacts offshore - ever. However, we must understand that as with any human endeavor there will always be risks.

We broadly agree with the detailed recommendations in the report and compliment the Department of Interior for its efforts. However, we do not agree with the six month blanket moratorium on floating drilling. A moratorium was added after the final review and was never agreed to by the contributors.

The draft which we reviewed stated:

“Along with the specific recommendations outlined in the body of the report, Secretary Salazar recommends a 6-month moratorium on permits for new exploratory wells with a depth of 1,000 feet or greater. This will allow time for implementation of the measures outlined in this report, and the

consideration of information and recommendations from the Presidential Commission as well as other investigations into the accident.

“In addition, Secretary Salazar recommends a temporary pause in all current drilling operations for a sufficient length of time to perform additional blowout preventer function and pressure testing and well barrier testing for the existing 33 permitted exploratory wells currently operating in deepwater in the Gulf of Mexico. These immediate testing requirements are described in Appendix 1.”

We agree that the report and the history it describes agrees with this conclusion. Unfortunately after the review the conclusion was modified to read:

“The Secretary also recommends temporarily halting certain permitting and drilling activities. First, the Secretary recommends a six-month moratorium on permits for new wells being drilled using floating rigs. The moratorium would allow for implementation of the measures proposed in this report and for consideration of the findings from ongoing investigations, including the bipartisan National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling.

“The Secretary further recommends an immediate halt to drilling operations on the 33 permitted wells, not including the relief wells currently being drilled by BP, that are currently being drilled using floating rigs in the Gulf of Mexico. Drilling operations should cease as soon as safely practicable for a 6-month period.”

We believe the moratorium as defined in the draft report addresses the issues evident in this case. We understand the need to undertake the limited moratorium and actions described in the draft report to assure the public that something tangible is being done. A blanket moratorium is not the answer. It will not measurably reduce risk further and it will have a lasting impact on the nation’s economy which may be greater than that of the oil spill.

The report highlights the safety record of the industry in drilling over 50,000 wells on the US Outer Continental Shelf of which more than 2000 were in over 1000 feet of water and 700 were in greater than 5000 feet of water. We have been using subsea blowout preventers since the mid- 1960s. The

only other major pollution event from offshore drilling was 41 years ago. This was from a shallow water platform in Santa Barbara Channel drilled with a BOP on the surface of the platform.

The safety of offshore workers is much better than that of the average worker in the US, and the amount of oil spilled is significantly less than that of commercial shipping or petroleum tankers. The US offshore industry is vital to our energy needs. It provides 30% of our oil production, is the second largest source of revenue to the US Government (\$6 Billion per year), and has a direct employment of 150,000 individuals. The report outlines several steps that can be taken immediately to further decrease risk as well as other steps that should be studied to determine if they can be implemented in a way that would decrease risk even more.

This tragedy had very specific causes. A blanket moratorium will have the indirect effect of harming thousands of workers and further impact state and local economies suffering from the spill. We would in effect be punishing a large swath of people who were and are acting responsibly and are providing a product the nation demands.

A blanket moratorium does not address the specific causes of this tragedy. We do not believe punishing the innocent is the right thing to do. We encourage the Secretary of the Interior to overcome emotion with logic and to define what he means by a "blanket moratorium" in such a way as to be consistent with the body of the report and the interests of the nation.

The foregoing represents our views as individuals and does not represent the views of the National Academy of Engineering or the National Research Council or any of its committees.

Kenneth E. Arnold, PE, NAE

Dr. Robert Bea, Department of Civil and Environmental Engineering,  
University of California at Berkeley

Dr. Benton Baugh, President, Radoil, Inc.

Ford Brett, Managing Director, Petroskills



Dr. Martin Chenevert, Senior Lecturer and Director of Drilling Research Program, Department of Petroleum and Geophysical Engineering, University of Texas

Dr. Hans Juvkam-Wold, Professor Emeritus, Petroleum Engineering, Texas A&M University

Dr. E.G. (Skip) Ward, Associate Director, Offshore Technology Research Center, Texas A&M University

Thomas E. Williams, The Environmentally Friendly Drilling Project

## MMS Deepwater Drilling Rig Inspection Report

### Overview

At the direction of Secretary Salazar, on Monday, April 26, 2010, all Minerals Management Service (MMS) inspectors in the Gulf of Mexico were ordered to direct their efforts toward inspecting the twenty-nine deepwater drilling rigs with subsea blowout preventer (BOP) stacks. Inspections on those rigs began on Tuesday, April 27, 2010 and were completed on May 4, 2010.

In response to additional direction provided by the Secretary on Thursday, April 29, 2010, this initial review has been followed by an immediate ongoing inspection of all deepwater platforms in the Gulf of Mexico. All of these reviews will be undertaken while maintaining the monthly schedule of drilling rig inspections.

### Inspection Protocol

The MMS inspection force was required to adhere to the following drilling inspection protocol to specifically address issues potentially raised by the incident involving the Deepwater Horizon at block Mississippi Canyon (MC) 252:

1. Perform a thorough, complete drilling inspection of each deepwater rig.
2. Key on the BOP test time frame, leaks and resolution, discrepancies, and repairs.
3. Make sure well control drills were performed as required by 30 CFR 250.462.

### Inspection Results

All deepwater rig inspections have been completed, except for one rig that was evacuated due to the oil spill and has not resumed operations. The MMS inspected a total of twenty-nine rigs.

The following Incidents of Non-Compliance (INC) were issued:

- The Transocean *Development Driller II (DD II)* working for BP, received one INC because it had not alternated between control stations for BOP testing. MMS regulations require that the regular 14-day BOP tests alternate between the BOP station on the rig floor and the remote station located at another site on the rig. On the *DD II* they conducted the BOP pressure testing only from the driller's control station for the last two tests. They did perform function testing on the remote station, but the pressure testing was only performed using the driller's station. MMS has ordered the rig to alternate control stations in the future.

This rig will be moving to drill the second relief well at MC252 and will be monitored closely to assure compliance with the BOP testing requirements. It will be inspected weekly rather than on a monthly basis, and in addition, as a condition of its drilling permit, the rig will be required to conduct increased testing of the BOP stack and Remote Operated Vehicle (ROV) intervention both on the rig and on the seabed.

**EXHIBIT  
C**

- The *Transocean Nautilus* working for Shell, received three Incidents of Non-Compliance:
  - A warning INC for having some flammable material in the scrap metal bin of the safe welding area.  
Corrective Action Taken: the material was removed at the time of the inspection.
  - A warning INC for having a 6-inch x 12-inch hole by the mud pump suction pipe.  
Corrective Action Taken: additional grating was place over the hole.
  - A warning INC for having expired eye wash bottles.  
Corrective Action Taken: the eye wash bottles were replaced.

No other violations were found on the rigs operating in deep water.

**Overview of Oil and Gas Operations in Gulf of Mexico:** Estimated production from the federal waters Gulf of Mexico as of October 2009 is 1.7 million barrels of oil per day and 6.6 billion cubic feet of gas per day. This represents about 30% of domestic oil production and about 11% of domestic natural gas production.

There are about 3,500 production platforms in federal waters Gulf of Mexico, 978 of which are manned. About 35,000 workers are employed in the offshore Gulf of Mexico at any one time.

There are 90 drilling rigs currently drilling or working-over in federal waters Gulf of Mexico, including 30 in deepwater. The 90 drilling rigs include 68 Mobile Offshore Drilling Units (MODU) and 22 stationary platform rigs.

A detailed list of inspections and dates follows.

District	Rig	Operator	Location	Type	Date Inspected	INC Issued	Comments
1	DO Confidence	Murphy	DC 4	SS	4/27/10		
1	DO Voyager	Walter	EW 834	SS	5/4/10		Last inspection 4/2/10
1	DO Endeavor	Exxon/ Mobil	MC 211	SS			Evacuated/moved off location; Last inspection 4/2/10
1	Noble Lorris Bouzigard	LLog	MC 503	SS	4/29/10		
1	T.O. Discover Americas	Statoil	MC 540	DS	4/28/10		
1	T.O. Deepwater Nautilus	Shell	MC 687	SS	5/4/10		
1	T.O. Marianas	Eni	MC 728	SS	4/28/10		
1	T.O. Discover Sprit	Anadarko	MC 876	DS	4/29/10		
1	Noble Jim	Shell	MC 984	SS	4/29/10		

	Thompson						
1	Noble Paul Romano	Marathon	MC 993	SS	4/28/10		
1	ENSCO 8501	Noble	MC 519	DS	4/29/10		
1	DO Saratoga	Taylor	MC 20	SS	4/1/10		
1	T.O. Development Driller III	BP	MC 252	SS	5/4/10		Being used for relief well; BOP will be inspected prior to use; last inspection 3/24/10
2	Frontier Driller	Shell	GC 248	SS	4/29/10		
2	T.O. Amirante	Eni	GC 254	SS	4/28/10		
2	Stena Forth	Hess	GC 469	DS	4/29/10		
2	DO Monarch	Marathon	GC 511	SS	4/28/10		
2	GSF C.R. Luigs	BHP	GC 555	DS	4/27/10		
2	T.O. Clear Leader	Chevron	GC 640	DS	4/29/10		
2	Noble Clyde Boudreaux	Noble	GC 723	SS	4/27/10		
2	Seadrill West Sirius	Devon	WR 206	SS	4/28/10		
2	T.O. Discover Deep Seas	Petrobras	WR 469	DS	4/28/10		
2	Development Driller II	BHP	GC 743	DS	4/29/10	D-285	Not alternating between BOP control stations
2	Maersk Developer	Statoil	WR 543	DS	4/28/10		
2	Ensco 8500	Anadarko	GC 903	DS	4/27/10		
2	Development Driller I	BHP	GC 817	DS	4/27/10		
3	DO Victory	Newfield	GB 425	SS	4/29/10		
3	T.O. Discoverer Inspiration	Chevron	KC 736	DS	4/28/10		
3	Noble Amos Runner	Anadarko	KC 875	SS	4/28/10		
3	Auger	Shell	GB 426	PF	4/29/10		
4	Noble Danny Adkins	Shell	AC 557	SS			Not drilling yet; in commissioning activities