

**Analysis of Costs and Benefits Resulting From Implementing a Regulation  
Requiring Blind Shear Rams in Surface Blowout Preventers  
Federal OCS Oil and Gas Leases  
Minimum Benefit Projection**

Exhibit 1

Year	Estimated Cost to Industry to Upgrade Current Drilling Rig Blowout Preventers with Blind Shear Rams	Damages and Costs Avoided						Annual Net Benefits	Annual Net Benefits Discounted Mid-Year at 7%
		Projected Drilling Rig Damages	Projected Platform and Well Damages	Relief Well Cost	Estimated Well Control Operating Cost	Pollution Cleanup Costs	Cost of Injuries		
2004	(\$4,725,000)							(\$4,725,000)	(\$4,567,830)
2005	(\$4,725,000)							(\$4,725,000)	(\$4,269,000)
2006	(\$4,725,000)							(\$4,725,000)	(\$3,989,720)
2007	\$0							\$0	\$0
2008	\$0							\$0	\$0
2009	\$0							\$0	\$0
2010	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$8,367,071
2011	\$0							\$0	\$0
2012	\$0							\$0	\$0
2013	\$0							\$0	\$0
2014	\$0							\$0	\$0
2015	\$0							\$0	\$0
2016	\$0							\$0	\$0
2017	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$5,210,591
2018	\$0							\$0	\$0
2019	\$0							\$0	\$0
2020	\$0							\$0	\$0
2021	\$0							\$0	\$0
2022	\$0							\$0	\$0
2023	\$0							\$0	\$0
Total								\$11,802,538	\$751,113

**Damages and Costs Avoided Category**

**Distribution Type and Values**

**Data Source**

Projected Drilling Rig Damages  
 Projected Platform and Well Damages  
 Relief Well Cost  
 Estimated Well Control Operating Cost  
 Pollution Cleanup Costs  
 Cost of Injuries

RiskCumul(5000,75000000)  
 RiskUniform(0,4470000)  
 RiskUniform(1,15000000)  
 RiskUniform(2000,950000)  
 \$0  
 RiskUniform(500,15000)

Maximum value from p. 19, *Oil & Gas Journal*, 8/19/02  
 Maximum value from MMS report for EI 10 blowout, 10/20/83  
 Maximum value from *Natural Gas Week*, 11/1/02  
 Based on operator reported daily costs, EC 83 blowout, 5/31/97  
 Costs covered by contract fees

**Analysis of Costs and Benefits Resulting From Implementing a Regulation  
Requiring Blind Shear Rams in Surface Blowout Preventers  
Federal OCS Oil and Gas Leases  
Most Likely Benefit Projection**

Year	Estimated Cost to Industry to Upgrade Current Drilling Rig Blowout Preventers with Blind Shear Rams	Damages and Costs Avoided						Annual Net Benefits	Annual Net Benefits Discounted Mid-Year at 7%
		Projected Drilling Rig Damages	Projected Platform and Well Damages	Relief Well Cost	Estimated Well Control Operating Cost	Pollution Cleanup Costs	Cost of Injuries		
2004	(\$4,725,000)							(\$4,725,000)	(\$4,567,830)
2005	(\$4,725,000)							(\$4,725,000)	(\$4,269,000)
2006	(\$4,725,000)							(\$4,725,000)	(\$3,989,720)
2007	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$10,250,022
2008	\$0							\$0	\$0
2009	\$0							\$0	\$0
2010	\$0							\$0	\$0
2011	\$0	\$10,270,019	\$2,235,000	\$7,500,000	\$476,000	\$0	\$7,750	\$20,488,769	\$12,334,954
2012	\$0							\$0	\$0
2013	\$0							\$0	\$0
2014	\$0							\$0	\$0
2015	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$5,965,606
2016	\$0							\$0	\$0
2017	\$0							\$0	\$0
2018	\$0							\$0	\$0
2019	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$4,551,132
2020	\$0							\$0	\$0
2021	\$0							\$0	\$0
2022	\$0							\$0	\$0
2023	\$0							\$0	\$0
Total								\$45,280,077	\$20,275,164

**Damages and Costs Avoided Category**

Projected Drilling Rig Damages  
 Projected Platform and Well Damages  
 Relief Well Cost  
 Estimated Well Control Operating Cost  
 Pollution Cleanup Costs  
 Cost of Injuries

**Distribution Type and Values**

RiskCumul(5000,75000000)  
 RiskUniform(0,4470000)  
 RiskUniform(1,15000000)  
 RiskUniform(2000,950000)  
 \$0  
 RiskUniform(500,15000)

**Data Source**

Maximum value from p. 19, *Oil & Gas Journal*, 8/19/02  
 Maximum value from MMS report for EI 10 blowout, 10/20/83  
 Maximum value from *Natural Gas Week*, 11/1/02  
 Based on operator reported daily costs, EC 83 blowout, 5/31/97  
 Costs covered by contract fees

**Analysis of Costs and Benefits Resulting From Implementing a Regulation  
Requiring Blind Shear Rams in Surface Blowout Preventers  
Federal OCS Oil and Gas Leases  
Maximum Benefit Projection**

Year	Estimated Cost to Industry to Upgrade Current Drilling Rig Blowout Preventers with Blind Shear Rams	Damages and Costs Avoided						Annual Net Benefits	Annual Net Benefits Discounted Mid-Year at 7%
		Projected Drilling Rig Damages	Projected Platform and Well Damages	Relief Well Cost	Estimated Well Control Operating Cost	Pollution Cleanup Costs	Cost of Injuries		
2004	(\$4,725,000)							(\$4,725,000)	(\$4,567,830)
2005	(\$4,725,000)							(\$4,725,000)	(\$4,269,000)
2006	(\$4,725,000)	\$10,270,019	\$2,235,000	\$7,500,000	\$476,000	\$0	\$7,750	\$15,763,769	\$13,310,692
2007	\$0							\$0	\$0
2008	\$0							\$0	\$0
2009	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$8,952,766
2010	\$0							\$0	\$0
2011	\$0							\$0	\$0
2012	\$0	\$10,270,019	\$2,235,000	\$7,500,000	\$476,000	\$0	\$7,750	\$20,488,769	\$11,527,994
2013	\$0							\$0	\$0
2014	\$0							\$0	\$0
2015	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$5,965,606
2016	\$0							\$0	\$0
2017	\$0							\$0	\$0
2018	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$4,869,711
2019	\$0							\$0	\$0
2020	\$0							\$0	\$0
2021	\$0	\$10,270,019	\$2,235,000	\$0	\$476,000	\$0	\$7,750	\$12,988,769	\$3,975,135
2022	\$0							\$0	\$0
2023	\$0							\$0	\$0
								\$78,757,615	\$39,765,074

**Damages and Costs Avoided Category**

**Distribution Type and Values**

**Data Source**

Projected Drilling Rig Damages  
 Projected Platform and Well Damages  
 Relief Well Cost  
 Estimated Well Control Operating Cost  
 Pollution Cleanup Costs  
 Cost of Injuries

RiskCumul(5000,75000000)  
 RiskUniform(0,4470000)  
 RiskUniform(1,15000000)  
 RiskUniform(2000,950000)  
 \$0  
 RiskUniform(500,15000)

Maximum value from p. 19, *Oil & Gas Journal*, 8/19/02  
 Maximum value from MMS report for EI 10 blowout, 10/20/83  
 Maximum value from *Natural Gas Week*, 11/1/02  
 Based on operator reported daily costs, EC 83 blowout, 5/31/97  
 Costs covered by contract fees

**Estimated Blowout Related Savings Resulting From Changes to the Surface Blowout Preventer Regulation  
Federal OCS Oil and Gas Leases  
Baseline Benefit Projections**

Exhibit 4

Year	Estimated Cost to Industry to Upgrade Current Drilling Rig Blowout Preventers with Blind Shear Rams	Minimum Benefit Projection	Minimum Benefit Projection Discounted Mid-Year at 7%	Most Likely Benefit Projection	Most Likely Benefit Projection Discounted Mid-Year at 7%	Maximum Benefit Projection	Maximum Benefit Projection Discounted Mid-Year at 7%
2004	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2005	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2006	\$0	\$0	\$0	0	0	\$20,488,769	\$17,300,411
2007	\$0	\$0	\$0	\$12,988,769	\$10,250,022	\$0	\$0
2008	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2009	\$0	\$0	\$0	\$0	\$0	\$12,988,769	\$8,952,766
2010	\$0	\$12,988,769	\$8,367,071	\$0	\$0	\$0	\$0
2011	\$0	\$0	\$0	\$20,488,769	\$12,334,954	\$0	\$0
2012	\$0	\$0	\$0	\$0	\$0	\$20,488,769	\$11,527,994
2013	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2014	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2015	\$0	\$0	\$0	\$12,988,769	\$5,965,606	\$12,988,769	\$5,965,606
2016	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2017	\$0	\$12,988,769	\$5,210,591	\$0	\$0	\$0	\$0
2018	\$0	\$0	\$0	\$0	\$0	\$12,988,769	\$4,869,711
2019	\$0	\$0	\$0	\$12,988,769	\$4,551,132	\$0	\$0
2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2021	\$0	\$0	\$0	\$0	\$0	\$12,988,769	\$3,975,135
2022	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2023	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total		\$25,977,538	\$13,577,662	\$59,455,077	\$33,101,714	\$92,932,615	\$52,591,624