

## Cycle Analysis ExxonMobil Literature

Title	Abstract	Corporate Source
1 <a href="#"><u>A general flow equation framework</u></a>	Flow equations are fundamental building blocks of any reservoir simulator and changing the formulation after the flow equations are interfaced with other building blocks such as solvers, facility networks, and well management may be virtually impossible. [CONT.]	(1)Exxon Mobil Upstream Research Company, United States
2 <a href="#"><u>Research and monitoring to support responsible offshore oil and gas development in the presence of the Western Gray Whale population off Northeast Sakhalin, Russia</u></a>	Exxon Neftegas Limited (ENL) is developing oil and gas reserves on the continental shelf off northeast Sakhalin Island, Okhotsk Sea, Russia. These projects are located in proximity to a habitat used by the Korean-Okhotsk or Western North Pacific gray whales ( <i>Eschrichtius robustus</i> ), hereafter referred to as the Western Gray Whale (WGW) [CONT.]	(1)ExxonMobil Development Company, United States of America (2)ExxonMobil Upstream Research Center, United States of America (3)Exxon Neftegas Limited, United States of America (4)ExxonMobil Exploration Company, United States of America
3 <a href="#"><u>Comparing photosynthetic and photovoltaic efficiencies and recognizing the potential for improvement.</u></a>	Comparing photosynthetic and photovoltaic efficiencies is not a simple issue. Although both processes harvest the energy in sunlight, they operate in distinctly different ways and produce different types of products: biomass or chemical fuels in the case of natural photosynthesis and nonstored electrical current in the case of photovoltaics [CONT.]	Departments of Biology and Chemistry, Washington University in St. Louis, St. Louis, MO 63130, United States. blankenship@wustl.edu Chemical Sciences and Engineering Division, Argonne National Laboratory, Argonne, IL 60439, United States. tiede@anl.gov [CONT.]
4 <a href="#"><u>Human and environmental health challenges for the next decade (20102020).</u></a>	The public health and environmental communities will face many challenges during the next decade. To identify significant issues that might be addressed as part of the International Life Sciences Institute (ILSI) Health and Environmental Sciences Institute (HESI) scientific portfolio, an expert group [CONT.]	Sanofi-aventis, Bridgewater, NJ, United States. Procter and Gamble Company, Cincinnati, OH, United States. Exxon Mobil Corporation, Irving, TX, United States. ILSI Health and Environmental Sciences Institute, 1156 Fifteenth Street, NW, Washington, DC 20005, United States. ndoerrer@hesiglobal.org [CONT.]
5 <a href="#"><u>A global approach to coating integrity</u></a>	The Search And Recovery Of Natural Resources Has Always Presented Challenges For The Construction And Maintenance Of Infrastructure, As These Resources Are Rarely Found In Close Proximity To Engineering Consultancies And The Necessary Support Industry. [CONT.]	(1)Exxon Mobil Production Company, Houston, TX, United States of America
6 <a href="#"><u>Integrated approach to optimize material selection for north field high-rate gas wells</u></a>	The RasGas Company Limited (RasGas) North Field wells typically have a TVD of 9,000+ ft (2750+ m) with a sail angle up to 70 degrees. The combination of 7-in. monobore and 9-5/8-in. big-bore wells are-designed to handle H <sub>2</sub> S and CO <sub>2</sub> corrosion, HCl acid stimulation, and environmental cracking. [CONT.]	(1)RasGas Company Limited (2)ExxonMobil Development Company (3)Exxon Mobil Upstream Research Company
7 <a href="#"><u>Front end planning for buildings</u></a>	Front End Planning is arguably the single most important process in the building project life cycle. Known in architecture terms as programming, schematic design, and design development, this phase of the project is many times poorly performed leading to less than	(1)Department of Civil, Architectural and Environmental Engineering, ECJ 5.208, University of Texas at Austin, Austin, TX 78712, United States of America (2)Exxon Mobil, Houston, TX, United

		successful outcomes. [CONT.]	States of America EMAIL: egibson@mail.utexas.edu; kyleirons@mail.utexas.edu; michael.p.ray@exxonmobil.com
8	<a href="#"><u>IRI LIFE CYCLE MANAGEMENT OF SCALE CONTROL WITHIN SUBSEA FIELDS AND ITS IMPACT ON FLOW ASSURANCE, GULF OF MEXICO AND THE NORTH SEA BASIN</u></a>	[For abstract and indexing, see Abstract #774,218]	NALCO EXXON ENERGY CHEM LP ; BP
9	<a href="#"><u>Brand names versus house brands.</u></a>	In a challenging economic climate, manufacturers constantly seek ways to reduce operating costs. Increasingly, plant managers are focusing on operating and maintenance items such as lubricants, which typically account for less than four percent of most plants maintenance, reliability and operations budget [CONT.]	Exxon Mobil Lubricants
10	<a href="#"><u>Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators Following the 1989 Exxon Valdez Oil Spill. Volume One. Final rept.</u></a>	This report represents a collective presentation of a collaborative research program conducted 1995-99 entitled 'Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators following the 1989 Exxon Valdez Oil Spill,' hereafter referred to as the NVP Study (this report). [CONT.]	National Biological Service, Anchorage, AK. Alaska Science Center. Sponsor: Exxon Valdez Oil Spill Trustee Council, Anchorage, AK. Restoration Office. (110599000)
11	<a href="#"><u>LIFE CYCLE MANAGEMENT OF SCALE CONTROL WITHIN SUBSEA FIELDS AND ITS IMPACT ON FLOW ASSURANCE, GULF OF MEXICO AND THE NORTH SEA BASIN</u></a>	An overview of life cycle flow assurance management is presented for a platform/subsea development by focusing on scale control. To illustrate this approach, examples of scale control methods for deepwater subsea fields are cited covering aspects such as treatment of the reservoir prior to production [CONT.]	NALCO EXXON ENERGY CHEM LP ; BP
12	<a href="#"><u>Ecological risk assessment of endocrine disruptors</u></a>	The European Centre for Ecotoxicology and Toxicology of Chemicals proposes a tiered approach for the ecological risk assessment of endocrine disruptors, integrating exposure and hazard (effects) characterization. Exposure assessment for endocrine disruptors should direct specific tests for wildlife species, placing hazard data into a risk assessment context [CONT.]	AstraZeneca, Brixham Environm Lab, Freshwater Quarry, Brixham TQ5 8BA, Devon, England (Reprint) E-mail: tom.hutchinson@brixham.astrazeneca.com AstraZeneca, Brixham Environm Lab, Brixham TQ5 8BA, Devon, England; Exxon Biomed Sci Inc, E Millstone, NJ USA; Du Pont, Wilmington, DE USA; [CONT.]
13	<a href="#"><u>Practical implementation of a Product Stewardship [system for environmental management at Exxon Chemical] Le suivi des produits mis en pratique</u></a>	Practical implementation of a Product Stewardship [system for environmental management at Exxon Chemical]. As part of its general environmental management program, similar to that required under the ISO 14000 standard, Exxon Chemical has developed a special Product Stewardship system. [CONT.]	(1)Exxon Chemical
14	<a href="#"><u>A proposed multigeneration protocol for Japanese medaka (Oryzias latipes) to evaluate effects of</u></a>	Definitive data on reproductive impairment of chronically exposed populations may be required to assess the appropriateness of the existing test methods for hazard identification and prioritization of endocrine modulators.	Rutgers State Univ, Cook Coll, Dept Biochem & Microbiol, 76 Lipman Dr 129, New Brunswick, NJ 08901 USA (Reprint) Rutgers State Univ, Joint Grad Program Toxicol, Piscataway, NJ USA; Exxon

	<u><a href="#">endocrine disrupters</a></u>	Multigeneration toxicity testing protocols for wildlife receptors are lacking. [CONT.]	Biomed Sci Inc, E Millstone, NJ USA
15	<u><a href="#">Hydrocarbon solvents for the future</a></u>	Various LCA studies have supported a continuing role for solvent-borne points, particularly high solids formulations. Despite this, only limited use has been made of alternative hydrocarbons which provide advantages to traditional solvents. This paper reviews some of the benefits these solvents can bring [CONT.]	Exxon Chem Ltd, 4600 Parkway, Fareham PO15 7AP, Hants, England (Reprint) Exxon Chem Ltd, Fareham PO15 7AP, Hants, England
16	<u><a href="#">FINDING THE RIGHT BALANCE IN OFFSHORE DECOMMISSIONING THE DEEPWATER CHALLENGE</a></u>	The petroleum exploration and production industry and contractor community face a considerable challenge over the next 25 yr to decommission ca 6,000 platforms worldwide, at a cost of ca US\$30 to 40 billion. [CONT.]	EXXON
17	<u><a href="#">An assessment of oil spill effects on pink salmon populations following the Exxon Valdez oil spill--1. Early life history</a></u>	An assessment of oil spill effects on pink salmon populations following the Exxon Valdez oil spill--1. Early life history. Field programs were initiated within a few days of the -Exxon Valdez oil spill in Prince William Sound to assess effects on critical early life stages of pink salmon, <i>Oncorhynchus gorbuscha</i> [CONT.]	(1)University of Idaho (2)MJM Research (3)Genesis Technical Services (4)Exxon Co USA (5)University of Washington
18	<u><a href="#">RECYCLING REVISITED: THE ROLE OF THE PLASTICS INDUSTRY IN RECYCLING.</a></u>	Recycling in the USA is discussed in terms of the need for a balance between environmental and economic objectives. The roles of governments at all levels, environmentalists and consumers are mentioned, but the emphasis is on the role of the plastics industry. [CONT.]	Exxon Chemical Co.
19	<u><a href="#">Improving inherent safety with sealless pumps</a></u>	Pump inherent safety can be significantly improved using properly designed seal-less pumps to reduce emissions and fires. Numerous surveys showed that the shaft seal is the dominate root cause of centrifugal pump failure in the chem. processing industry. [CONT.]	Exxon Chemical Co., Baytown, TX, USA
20	<u><a href="#">Environmentally friendly films made with a new family of linear ethylene polymers</a></u>	The public's ever-increasing environmental consciousness is driving the plastics packaging industry to constantly consider the complete life cycle of their products. One avenue by which packaging film producers are responding to the 'green' movement is by manufacturing polyolefin-based films containing Post-Consumer Recycled (PCR) polyolefins [CONT.]	(1)EXXON Chemical Co, Baytown, United States of America
21	<u><a href="#">ENVIRONMENTAL CONCERNS AND PRESSURE SENSITIVE ADHESIVE TAPES FOR PACKAGING.</a></u>	Concerns relating to the impact of plastic film backed pressure sensitive adhesive tapes on the environment are discussed in some detail. The paper discusses environmental advantages of these tapes over other methods for closure of packaging. [CONT.]	3M Co.,Masking & Packaging Systems Div.
22	<u><a href="#">APPLIED GEOLOGY - OBJECTIVES, PROCEDURES, AND THE ROLE OF THE MINE GEOLOGIST.</a></u>	Geologists take the role of mine geologist when they apply their science to the design and operation of a specific minerals project. In doing so, they use the entire spectrum of procedures in economic geology and engineering geology to deal with a specific	(1)Behre Dolbear & Co, Tucson, AZ,, USA, Behre Dolbear & Co, Tucson, AZ, USA

		system of orebodies and associated environment [CONT.]	
23	<a href="#"><u>APPLICATION OF LOGISTIC SUPPORT COST ESTIMATION IN A CONTRACTING ENVIRONMENT.</u></a>	One application of estimation methodology in the life cycle cost (LCC) arena is found in the context of a contracting procedure used by the U. S. Air Force during the 1970's. The procedure, known as the Logistic Support Cost Commitment (LSCC) employs a logistic support cost model framework as a basis for a cost target and subsequently, an estimate [CONT.]	(1)Exxon Corp, Florham Park, NJ, USA, Exxon Corp, Florham Park, NJ, USA
24	<a href="#"><u>Management of logistic support costs in the equipment acquisition phase</u></a>	Management control objectives in the logistic support cost (LSC) commitment goal communicated to contractors by the DOD during equipment procurement are explored. A cost model framework (CMF) is communicated to the contractor in order to establish controllable equipment logistic parameters prior to bidding for contracts [CONT.]	Exxon Corp., Florham Park, NJ
25	<a href="#"><u>Some physiological aspects of the autecology of the suspension-feeding protozoa Tetrahymena pyriformis .</u></a>	Feeding, growth, and reproductive responses of the suspension-feeding protozoan Tetrahymena pyriformis to shifts up or down of the density of its bacterial food were observed. The rates of feeding, growth, and reproduction were determined by measuring the rates of uptake of viable bacterial cells, of change of mean volume of the protozoan cells, and of change of number of protozoan cells, respectively [CONT.]	Exxon Research Engineering Corp., Linden, NJ 07036, USA
26	<a href="#"><u>SSA/AIDS: a graphic, interactive system for structured systems analysis.</u></a>	Computer application requirements collection and analysis occurs at Exxon through a methodology called Structured Systems Analysis (SSA), which emphasizes the modeling of systems via a series of diagrams. In this paper, the authors discuss a tool, SSA/AIDS, which provides computer-based support for SSA via an electronic drawing board [CONT.]	Exxon Corp., Florham Park, NJ, USA
27	<a href="#"><u>(A DISCUSSION OF THE FUTURE FOR (CHEMICAL) INNOVATION (UNDER THE TOXIC SUBSTANCES CONTROL ACT (TSCA))</u></a>	[A Discussion of the] Future for [Chemical] Innovation [under the Toxic Substances Control Act (TSCA)] shows that a substantial disruption of new chemical development and introduction has occurred after .approx.3 yr of Premanufacture Notification (PMN) experience. [CONT.]	(1)EXXON CHEM. AM.
28	<a href="#"><u>SSA/AIDS: A graphic, interactive system for structured systems analysis</u></a>	Computer application requirements collection and analysis by structured systems analysis (SSA) through a methodology which emphasizes the modeling of systems via a series of diagrams is discussed. A tool, SSA/AIDS, which provides computer based support for SSA via an electronic drawing board is examined [CONT.]	Exxon Corp., Florham Park, NJ
29	<a href="#"><u>Submerged production system - a final report</u></a>	The offshore pilot test of Exxon's Submerged Production System (SPS) has reached a successful conclusion. This pilot test encompassed the entire spectrum of SPS equipment, spanning from the well completion	Exxon Co., USA; OTC-3450.

	intervals to, but not including, common surface processing and storage facilities. [CONT.]	
<b>30</b>	<b><u><a href="#">Comparative efficiencies of alternative future automotive power systems</a></u></b>	An analysis of the overall energy efficiency of a small (2 + 2) urban vehicle powered by five different power trains, all with similar acceleration performance and payload capabilities is presented. [CONT.]

Exxon Enterprises, Inc., New York

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Compendex (COMP)

**A general flow equation framework****Author(s):** Haugen Kjetil B.(1); Beckner Bret L.(1)**Corporate Source**

(1)Exxon Mobil Upstream Research Company, United States

**Source:** Society of Petroleum Engineers - SPE Reservoir Simulation Symposium 2015; Society of Petroleum Engineers - SPE Reservoir Simulation Symposium 2015 (2015), Volume 2, pp. 1310-1318, 10 refs. ISBN: 9781510800618 Published by: Society of Petroleum Engineers Conference: SPE Reservoir Simulation Symposium 2015, Houston, TX, United States, 23 Feb 2015 - 25 Feb 2015 Organizer(s): Schlumberger; Sciencsoft

**Document Type:** Conference; (Conference Paper)**Language:** English**Abstract**

Flow equations are fundamental building blocks of any reservoir simulator and changing the formulation after the flow equations are interfaced with other building blocks such as solvers, facility networks, and well management may be virtually impossible. In a general purpose simulator it is also desirable to use the same formulation for black-oil, compositional, and thermal simulations. The challenge is therefore to find a formulation that works well all the time and to do so at a time when the simulator is at the beginning of its life-cycle and does not yet have all the features that are needed for thorough testing. This paper presents a general flow equation framework where the flow equations are expressed in terms of general material balance equations. The approach isolates the flow equations from the fluid model and makes the formulation independent of fluid type. Additionally, all derivatives are expressed in terms of generic gradients. Architecturally, this decouples the material balance equations from the choice of independent variables and isolates the part of the code that is formulation specific to a thin layer interfacing the flow equations with the property calculations. The end result is a modular flow equation framework which facilitates the use of any formulation with any fluid type.

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Compendex (COMP)

## **Research and monitoring to support responsible offshore oil and gas development in the presence of the Western Gray Whale population off Northeast Sakhalin, Russia**

**Author(s):** Egging Daniel E.(1); Blackman Bella(1); Tyler David C.(1); Dupont Jennifer M.(2); Melton Rodger(2); Werner Sandra R.(2); Kalinin Ervin(3); Swindoll Mike(3); Gaupman Lena(3); Danilov Mikhail(3); Jenkerson Mike(4); Isaksen Gary H.(4) Correspondence(s): Egging D.E.(1)

### **Corporate Source**

- (1)ExxonMobil Development Company, United States of America
- (2)ExxonMobil Upstream Research Center, United States of America
- (3)Exxon Neftegas Limited, United States of America
- (4)ExxonMobil Exploration Company, United States of America

**Source:** Society of Petroleum Engineers - SPE/APPEA Int. Conference on Health, Safety and Environment in Oil and Gas Exploration and Production 2012: Protecting People and the Environment - Evolving Challenges (2012), Volume 1, pp. 687-695, 33 refs. ISBN: 9781622763931 Published by: Society of Petroleum Engineers, 222 Palisades Creek Dr., TX 75080-2040, Richardson, United States of America Conference: SPE/APPEA International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production 2012: Protecting People and the Environment - Evolving Challenges, Perth, WA, Australia, 11 Sep 2012 - 13 Sep 2012 Organizer(s): Chevron; Shell; ExxonMobil; ERM; Petrobras

**Document Type:** Conference; (Conference Paper)

**Language:** English

### **Abstract**

Exxon Neftegas Limited (ENL) is developing oil and gas reserves on the continental shelf off northeast Sakhalin Island, Okhotsk Sea, Russia. These projects are located in proximity to a habitat used by the Korean-Okhotsk or Western North Pacific gray whales (*Eschrichtius robustus*), hereafter referred to as the Western Gray Whale (WGW). The WGW population is listed as endangered in the Russian Red Book and as critically endangered by the International Union for the Conservation of Nature (IUCN). ENL has a long history of monitoring the WGWs in partnership with Sakhalin Energy Investment Company, Ltd. (SEIC), resulting in one of the most comprehensive data sets on marine mammal ecology and anthropogenic impacts at both the individual and population levels. The robust dataset resulted in the development and implementation of mitigation plans to address major risks to the population and, through a recent tagging / satellite monitored telemetry effort, provided important insights into Pacific basin-scale movements of the population. This paper provides an overview of: 1. ENL's initial studies and protection plans to address WGW ecological data gaps and risks to the population. 2. Methodologies of and summary results from the comprehensive ENL-SEIC Joint Monitoring Program to monitor impacts of industry operations. 3. Results from a tagging / satellite monitored telemetry program funded by ENL and SEIC to better assess the risks to the WGW

population across its annual life cycle, including areas outside the immediate vicinity of industry operations off Sakhalin Island. Copyright 2012, SPE/APPEA International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production.

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EMBASE (EMBA)

**Comparing photosynthetic and photovoltaic efficiencies and recognizing the potential for improvement.**

**Accession Number:** 2011271127

**Entry Date:** 2011-05-25

**Update Date:** 2011-05-25

**Author:** Blankenship, Robert E. ; Tiede, David M. ; Barber, James ; Brudvig, Gary W. ; Fleming, Graham ; Ghirardi, Maria ; Gunner, M.R. ; Junge, Wolfgang ; Kramer, David M. ; Melis, Anastasios ; Moore, Thomas A. ; Moser, Christopher C. ; Nocera, Daniel G. ; Nozik, Arthur J. ; Ort, Donald R. ; Parson, William W. ; Prince, Roger C. ; Sayre, Richard T. ; Blankenship, R. E. (correspondence)

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**Source:** Science, (13 May 2011) Vol. 332, No. 6031, pp. 805-809. Refs: 68 ISSN: 0036-8075; E-ISSN: 1095-9203 CODEN: SCIEAS

**Document Type:** Journal General Review (Review)

**Language:** English

### Abstract

Comparing photosynthetic and photovoltaic efficiencies is not a simple issue. Although both processes harvest the energy in sunlight, they operate in distinctly different ways and produce different types of products: biomass or chemical fuels in the case of natural photosynthesis and nonstored electrical current in the case of photovoltaics. In order to find common ground for evaluating energy-conversion efficiency, we compare natural photosynthesis with present technologies for photovoltaic-driven electrolysis of water to produce hydrogen. Photovoltaic-driven electrolysis is the more efficient process when measured on an annual basis, yet short-term yields for photosynthetic conversion under optimal conditions come within a factor of 2 or 3 of the photovoltaic benchmark. We consider opportunities in which the frontiers of synthetic biology might be used to enhance natural photosynthesis for improved solar energy conversion efficiency.

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EMBASE (EMBA)

### **Human and environmental health challenges for the next decade (20102020).**

**Accession Number:** 2010575815

**Entry Date:** 2010-11-02

**Update Date:** 2010-11-02

**Author:** Bonnefoi, Marc S. ; Belanger, Scott E. ; Devlin, Dennis J. ; Doerr, Nancy G. ; Embry, Michelle R. ; Holsapple, Michael P. ; Kim, James H. ; O'Lone, Raegan ; Pettit, Cyril D. ;

Fukushima, Shoji ; Harpur, Ernest S. ; Hines, Ronald N. ; MacDonald, James S. ; Stevens, James L. ; Takei, Ayako S. ; Tinkle, Sally S. ; Van Der Laan, Jan Willem ; Doerrer, N. G.  
(correspondence)

**Corporate Source:** Sanofi-aventis, Bridgewater, NJ, United States.

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**Source:** Critical Reviews in Toxicology, (November 2010) Vol. 40, No. 10, pp. 893-911. Refs: 21 ISSN: 1040-8444; E-ISSN: 1547-6898 CODEN: CRTXB2

**Document Type:** Journal General Review (Review)

**Language:** English

### Abstract

The public health and environmental communities will face many challenges during the next decade. To identify significant issues that might be addressed as part of the International Life Sciences Institute (ILSI) Health and Environmental Sciences Institute (HESI) scientific portfolio, an expert group of key government, academic, and industry scientists from around the world were assembled in 2009 to map the current and future landscape of scientific and regulatory challenges. The value of the scientific mapping exercise was the development of a tool which HESI, individual companies, research institutions, government agencies, and regulatory authorities can use to anticipate key challenges, place them into context, and thus strategically refine and expand scientific project portfolios into the future. .COPYRGT. 2010 Informa Healthcare USA, Inc.

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Compendex (COMP)

### A global approach to coating integrity

**Author(s):** Campbell Neil(1) Correspondence(s): Campbell N.(1)

**Corporate Source**

(1)Exxon Mobil Production Company, Houston, TX, United States of America

**Source:** 50th Annual Conference of the Australasian Corrosion Association 2010: Corrosion and Prevention 2010 (2010), pp. 37-45, 10 refs. ISBN: 9781617824791 Published by: Australasian Corrosion Association, PO Box 112, Kerrimuir, 3129, Victoria, Australia Conference: 50th Annual Conference of the Australasian Corrosion Association 2010: Corrosion and Prevention 2010, Adelaide, SA, Australia, 14 Nov 2010 - 17 Nov 2010

**Document Type:** Conference; (Conference Paper)

**Language:** English

**Abstract**

The Search And Recovery Of Natural Resources Has Always Presented Challenges For The Construction And Maintenance Of Infrastructure, As These Resources Are Rarely Found In Close Proximity To Engineering Consultancies And The Necessary Support Industry. From The Deserts Of Australia To Off The Coast Of Africa, Every Location Presents A Unique Set Of Circumstances That Can Make It Difficult To Staff With The Right Technical Skill Set. During the construction and early production phases, where the cost of delays can be high, this obstacle can be overcome by accommodating the necessary specialist personnel on site. However, as the life cycle progresses through to operation, providing this level of support becomes increasingly difficult to justify from an economic perspective leading to the decision to remove the specialist personnel and centralise them at a single location. For multi-national and global companies, the "one location, multiple assets" model delivers lower costs by limiting the duplication of services and providing a more uniform and disciplined approach to problem solving. In addition, the centralisation of corporate knowledge ensures that lessons learnt through execution benefit the entire organisation. Through centralisation of specialist personnel who provide support for multiple assets business units are able to overcome this issue while maintaining profitability. This paper examines one aspect of the "one location, multiple assets" approach to facility integrity: the maintenance coating program. The practicalities of implementing such a model are discussed by tracing the evolution of the program and its various components, including strategy development, survey techniques and coating specifications. Conclusions are then drawn regarding the relative merits of this type of management strategy.

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Compendex (COMP)

**Integrated approach to optimize material selection for north field high-rate gas wells**

**Author(s):** Sorem W.A.(1); Wright E.J.(2); Pacheco J.L.(2); Norman D.A.(3)

**Correspondence(s):** Sorem W. A.(1)

**Corporate Source**

(1)RasGas Company Limited

(2)ExxonMobil Development Company

(3)Exxon Mobil Upstream Research Company

**Source:** International Petroleum Technology Conference, IPTC 2008 (2008), Volume 3, pp. 1802-1818, 5 refs. ISBN: 9781605609546 Published by: Society of Petroleum Engineers, Box 833836, TX 75083-3836, Richardson, United States of America Conference: International Petroleum Technology Conference, IPTC 2008, Kuala Lumpur, Malaysia, 3 Dec 2008 - 5 Dec 2008

**Document Type:** Conference; (Conference Paper)

**Language:** English

**Abstract**

The RasGas Company Limited (RasGas) North Field wells typically have a TVD of 9,000+ ft (2750+ m) with a sail angle up to 70 degrees. The combination of 7-in. monobore and 9-5/8-in. big-bore wells are designed to handle H<sub>2</sub>S and CO<sub>2</sub> corrosion, HCl acid stimulation, and environmental cracking. The wells must accommodate high flow rates and through-tubing intervention. This paper describes the technical development of an optimized operational envelope for L80 carbon steel tubulars for these North Field high-rate gas wells in Qatar. This requires corrosion testing under downhole conditions including CO<sub>2</sub> and H<sub>2</sub>S partial pressures, field condensate, water chemistry, and accurately simulated wellbore flow conditions. The program also includes potential effects of water salinity, acidizing treatments, and completion fluids. This approach to corrosion engineering can enable the use of carbon steel in corrosive service. Well designs have been optimized to take advantage of carbon steel tubing in conjunction with corrosion resistant alloy (CRA) liners. The use of carbon steel production tubing in lieu of CRAs has significantly reduced the cost of these wells and enabled the development of 9-5/8-in. large bore completions to increase production capacity. This integrated corrosion engineering approach can be used for virtually any application to optimize the life-cycle material and corrosion mitigation costs, with the potential to minimize costly alloy use and/or eliminate facilities. Application of the integrated approach to materials selection resulted in well designs unique to the North Field by incorporating the use of carbon steel production tubing. Copyright 2008, International Petroleum Technology Conference.

**EI COMPENDEX**

2009-3012213400

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## Front end planning for buildings

**Author(s):** Gibson Jr. G. Edward(1); Irons Kyle T.(1); Ray Michael P.(2) Correspondence(s): Gibson Jr. G.E.(1)

### Corporate Source

(1)Department of Civil, Architectural and Environmental Engineering, ECJ 5.208, University of Texas at Austin, Austin, TX 78712, United States of America

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**Source:** AEI 2006: Building Integration Solutions - Proceedings of the 2006 Architectural Engineering National Conference (2006), Volume 2006, pp. 41, 14 refs. ISBN: 0784407983; 9780784407981 DOI: 10.1061/40798(190)41 Published by: American Society of Civil Engineers Conference: AEI 2006, Omaha, NE, United States of America, 29 Mar 2006 - 1 Apr 2006

**Document Type:** Conference; (Conference Paper); General Review

**Language:** English

### Abstract

Front End Planning is arguably the single most important process in the building project life cycle. Known in architecture terms as programming, schematic design, and design development, this phase of the project is many times poorly performed leading to less than successful outcomes. Front End Planning is focused on creating a strong, early link between the business or mission need, project strategy, scope, cost, and schedule and maintaining that link unbroken throughout the project life. Anecdotally, many companies admit that good front end planning is rare, however it is required for every building project. This paper will focus on past and current front end planning research conducted by researchers at The University of Texas at Austin. The results of over a dozen case study evaluations will be presented from an ongoing research investigation from projects worth over \$1.5 billion. Additionally, statistics on front end planning effectiveness, including the relationship between front end planning and cost and schedule growth, will be shown using a sample of projects worth several billion dollars. Key findings and advice from this study will be provided for industry practitioners. Copyright ASCE 2006.

### EI COMPENDEX

2006-5210336109

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Petroleum Abstracts (TULSA)

**[R] LIFE CYCLE MANAGEMENT OF SCALE CONTROL WITHIN SUBSEA FIELDS AND ITS IMPACT ON FLOW ASSURANCE, GULF OF MEXICO AND THE NORTH**

**SEA BASIN****Accession Number:** 2004:25092**Tulsa Document Number:** 849155**Author:** JORDAN, M M; SJURAETHER, K; FEASEY, N D; EMMONS, D; COLLINS, I R  
**Corporate Source:** NALCO EXXON ENERGY CHEM LP ; BP**Source:** OFFSHORE MULTIPHASE PRODUCTION OPERATIONS: VOL.I [SPE REPRINT SER. NO.58] pp.211-226, 2004. (ISBN 1-55563-103-7; SPE-71557; 32 refs) SRLA# 774,218**Document Type:** Conference Conference Article**Language:** English**Abstract**

[For abstract and indexing, see Abstract #774,218]

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PQSCITECH (PQSCITECH)

**Brand names versus house brands.****Accession Number:** 2003:307483**Author:** Clements, S.F.**Corporate Source:** Exxon Mobil Lubricants**Source:** Plant Services. Vol. 24, no. 9, pp. 49-50, 52. Sept. 2003 ISSN: 0199-8013 Published by: Putman Media, 555 West Pierce Rd , Suite 301, Itasca, IL, 60643, USA,[URL:<http://www.putmanmedia.com/>] Conference: Proceedings of the Conference on Directional Wave Spectra Applications,**Document Type:** Conference; Journal; Article**Language:** English**Abstract**

In a challenging economic climate, manufacturers constantly seek ways to reduce operating costs. Increasingly, plant managers are focusing on operating and maintenance items such as lubricants, which typically account for less than four percent of most plants maintenance, reliability and operations budget. Seeking to reduce lubricant costs, some plant managers are tempted by the prospect of purchasing generic lubricants known as house brands, which are typically marketed as a low-price alternative to major brand name lubricants. House brands are usually limited to basic hydraulic fluids, engine and gear oils, and are often purchased from third-party compound blenders or, in some cases, blended in-house by distributors. On the surface, purchasing house-brand lubricants can appear to be a viable option. However, the lower costs can mask a fundamental question:

Is it a quality product that won't compromise equipment life cycle, performance and production? When considering the purchase of house brand or brand name lubricants, plant managers should consider several aspects before making a buying decision.

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PQSCITECH (PQSCITECH)

**Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators Following the 1989 Exxon Valdez Oil Spill. Volume One. Final rept.**

**Accession Number:** 2004(01):01167

**Author:** Holland-Bartels, L. E.

**Corporate Source:** National Biological Service, Anchorage, AK. Alaska Science Center.

**Sponsor:** Exxon Valdez Oil Spill Trustee Council, Anchorage, AK. Restoration Office. (110599000)

**Document Type:** Report

**Language:** English

**Abstract**

This report represents a collective presentation of a collaborative research program conducted 1995-99 entitled 'Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators following the 1989 Exxon Valdez Oil Spill,' hereafter referred to as the NVP Study (this report). Four top vertebrate predators, all listed as injured by the Exxon Valdez Oil Spill Trustee Council, were studied under a common research design. Each of these species depends on the nearshore coastal environment of Prince William Sound for all or critical parts of its life cycle. However, each species also offers scientists a different ecological window or perspective that we propose can be used to develop a suite of independent models upon which to build a weight of evidence on recovery status and any factors that may be affecting recovery. We propose that such a weight of evidence is sufficient to mitigate data uncertainties that have limited confident assessments in the past. These four species are (1) sea otter (*Enhydra lutris*), an invertebrate-feeding mammal present in the Sound year-round and dependent on intertidal to deep (< 200 m) subtidal areas; (2) Harlequin duck (*Histrionicus histrionicus*), an invertebrate-feeding bird that overwinters in the Sound and depends on intertidal and shallow subtidal areas; (3) river (Lontra *Canadensis*), primarily a piscivorous mammal that inhabits intertidal and coastal terrestrial zones and is present in the area year-round; and (4) pigeon guillemot (*Cephus columba*), a piscivorous bird that nests and reproduces in colonies located on various islands in the Sound. The papers in this report address a variety of lessons learned from each of these species, as well as new methodologies and technical insights obtained from the NVP Study.

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Petroleum Abstracts (TULSA)

**LIFE CYCLE MANAGEMENT OF SCALE CONTROL WITHIN SUBSEA FIELDS AND ITS IMPACT ON FLOW ASSURANCE, GULF OF MEXICO AND THE NORTH SEA BASIN**

**Accession Number: 2002:2735**

**Tulsa Document Number: 774218**

**Author:** JORDAN, M M; SJURAETHER, K; FEASEY, N D; EMMONS, D; COLLINS, I R  
**Corporate Source:** NALCO EXXON ENERGY CHEM LP ; BP

**Source:** ANNU. SPE TECH. CONF. (New Orleans, LA, 9/30/2001-10/3/2001) PROC. 2001. (SPE-71557; Available on CD-ROM; Color; 16 pp; 32 refs)

**Document Type:** Conference Conference Article

**Language:** English

**Abstract**

An overview of life cycle flow assurance management is presented for a platform/subsea development by focusing on scale control. To illustrate this approach, examples of scale control methods for deepwater subsea fields are cited covering aspects such as treatment of the reservoir prior to production to prevent scale formation within the near wellbore (solids and fluid system for inhibitor deployment); downhole scale control using continuous injection (gas lift, capillary); and squeeze treatments as the production wells move through their life cycle and water cut rises. The management of scale and corrosion issues within a subsea field is reviewed with examples of an operator moving from combined scale inhibitor/corrosion inhibitor products to a single corrosion inhibitor product at the manifold as water cut rises. How this field could have been developed if all of today's scale control/monitoring technology had been available during the capital expenditure phase of field development and how this might have an impact on field economics is presented. The methods used to assess the risk of scale and the associated risk manageability of the problem are reviewed.

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SCISEARCH (SCISRCH)

**Ecological risk assessment of endocrine disruptors**

**Accession Number: 2000:869977**

The Genuine Article (R) Number: 373XP

**Author:** Hutchinson T H (Reprint) ; Brown R ; Brugger K E ; Campbell P M ; Holt M ; Lange R ; McCahon P ; Tattersfield L J ; van Egmond R

**Corporate Source:** AstraZeneca, Brixham Environm Lab, Freshwater Quarry, Brixham TQ5 8BA, Devon, England (Reprint) E-mail: tom.hutchinson@brixham.astrazeneca.com  
AstraZeneca, Brixham Environm Lab, Brixham TQ5 8BA, Devon, England; Exxon Biomed Sci Inc, E Millstone, NJ USA; Du Pont, Wilmington, DE USA; Procter & Gamble Co, Toronto, ON, Canada; ECETOC, Brussels, Belgium; Schering AG, D-1000 Berlin, Germany; Aventis, Res Triangle Pk, NC USA; ZENECA Agrochem, Jealotts Hill Res Stn, Bracknell, Berks, England; Unilever Res, Port Sunlight Lab, Bebington, England

**Author Country:** England; USA; Canada; Belgium; Germany

**Source:** ENVIRONMENTAL HEALTH PERSPECTIVES, (NOV 2000) Vol. 108, No. 11, pp. 1007-1014. ISSN: 0091-6765.

**Document Type:** General Review; Journal

**Language:** English

**Cited Reference Count:** Reference Count: 72

### Abstract

The European Centre for Ecotoxicology and Toxicology of Chemicals proposes a tiered approach for the ecological risk assessment of endocrine disruptors, integrating exposure and hazard (effects) characterization. Exposure assessment for endocrine disruptors should direct specific tests for wildlife species, placing hazard data into a risk assessment context. Supplementing the suite of mammalian screens now under Organization for Economic Cooperation and Development (OECD) validation, high priority should be given to developing a fish screening assay for detecting endocrine activity in oviparous species. Taking into account both exposure characterization and alerts from endocrine screening, higher tier tests are also a priority for defining adverse effects. We propose that in vivo mammalian and fish assays provide a comprehensive screening battery for diverse hormonal functions (including androgen, estrogen, and thyroid hormone), whereas Amphibia should be considered at higher tiers if there are exposure concerns. Higher tier endocrine-disrupter testing should include fish development and fish reproduction tests, whereas a full life-cycle test could be subsequently used to refine aquatic risk assessments when necessary. For avian risk assessment, the new OECD Japanese quail reproduction test guideline provides a valuable basis for developing a test to detecting endocrine-mediated reproductive effects; this species could be used, where necessary, for an avian life-cycle test. For aquatic and terrestrial invertebrates, data from existing developmental and reproductive tests remain of high value for ecological risk assessment. High priority should be given to research into comparative endocrine physiology of invertebrates to support data extrapolation to this diverse fauna.

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EnCompass Literature (ENCOML)

**Practical implementation of a Product Stewardship [system for environmental management at Exxon Chemical] Le suivi des produits mis en pratique**

**Author:** Lapie T

**Corporate Source:** (1)Exxon Chemical

**Source:** Petrole et Techniques (Mar 1999), Number 419, pp. 73 ISSN: 0152-5425 Conference: (in French)

**Document Type:** Journal

**Language:** French

**Abstract**

Practical implementation of a Product Stewardship [system for environmental management at Exxon Chemical]. As part of its general environmental management program, similar to that required under the ISO 14000 standard, Exxon Chemical has developed a special Product Stewardship system. This system comprises several elements, including the general product management procedure, evaluation and management of risks and hazards, systematic classification of the hazards and evaluation of risks for all technical fluid products, a permanent aid system for the users of pentanes (now being installed), personnel training, client information and safety data file, etc. A system manual treats in detail product management and regulation issues concerning human health, environmental and toxicological aspects, product classification and marking, safety data file, regulations on product transportation, VOC and ozone issues, life cycle analysis, etc. To estimate the limiting exposure values of plant workers to mixed solvents, a simple equation, which assumes similar and additive toxicities of most of the hydrocarbon components, is used. Flow diagram.

**Encompass**

**Accession Number:** 1999:11413

**Document Number:** 4605933

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SCISEARCH (SCISRCH)

**A proposed multigeneration protocol for Japanese medaka (*Oryzias latipes*) to evaluate effects of endocrine disrupters**

**Accession Number:** 1999:692062

The Genuine Article (R) Number: 235BK

**Author:** Patyna P J (Reprint) ; Davi R A ; Parkerton T F ; Brown R P ; Cooper K R

**Corporate Source:** Rutgers State Univ, Cook Coll, Dept Biochem & Microbiol, 76 Lipman Dr 129, New Brunswick, NJ 08901 USA (Reprint) Rutgers State Univ, Joint Grad Program Toxicol,

Piscataway, NJ USA; Exxon Biomed Sci Inc, E Millstone, NJ USA

**Author Country:** USA

**Source:** SCIENCE OF THE TOTAL ENVIRONMENT, (15 AUG 1999) Vol. 233, No. 1-3, pp. 211-220. ISSN: 0048-9697.

**Document Type:** Article; Journal

**Language:** English

**Cited Reference Count:** Reference Count: 37

### **Abstract**

Definitive data on reproductive impairment of chronically exposed populations may be required to assess the appropriateness of the existing test methods for hazard identification and prioritization of endocrine modulators. Multigeneration toxicity testing protocols for wildlife receptors are lacking. To help address this gap we describe a multigeneration fish assay using the freshwater fish, Japanese medaka (*Oryzias latipes*). This test species has been used for the evaluation of carcinogenic, teratogenic and reproductive effects and is sensitive to estrogen exposure producing ovo-testis, altered biochemical parameters and phenotypic characteristics. Due to the short life cycle, a multigeneration test with medaka can be conducted in 1 year. Endpoints evaluated include: survival, growth, sex ratio, fecundity, embryonic lesion occurrence, embryonic stage development, gonadal and hepatic somatic indices, histopathology and biochemical parameters. As new endpoints are developed they can be incorporated into the protocol. Results of a positive control (17 beta-estradiol) study are presented to give an indication of the baseline associated with various test endpoints and to highlight the importance of nutrition in the experimental design. 17 beta-Estradiol treatment induced vitellogenin production in male and female medaka, feminized males, and disrupted egg production. The proposed protocol provides researchers with an effective multigeneration fish test that can be used to examine potential effects of stressors at the population, individual, cellular and subcellular level. (C) 1999 Elsevier Science B.V. All rights reserved.

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SCISEARCH (SCISRCH)

### **Hydrocarbon solvents for the future**

**Accession Number:** 1999:616257

The Genuine Article (R) Number: 225LJ

**Author:** Paterson T (Reprint)

**Corporate Source:** Exxon Chem Ltd, 4600 Parkway, Fareham PO15 7AP, Hants, England (Reprint) Exxon Chem Ltd, Fareham PO15 7AP, Hants, England

**Author Country:** England

**Source:** JOCCA-SURFACE COATINGS INTERNATIONAL, (APR 1999) Vol. 82, No. 4, pp. 177-+. ISSN: 1356-0751.

**Document Type:** Article; Journal

**Language:** English

**Cited Reference Count:** Reference Count: 7

### **Abstract**

Various LCA studies have supported a continuing role for solvent-borne points, particularly high solids formulations. Despite this, only limited use has been made of alternative hydrocarbons which provide advantages to traditional solvents. This paper reviews some of the benefits these solvents can bring. The benefits include superior occupational exposure, flammability and odour characteristics.

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Petroleum Abstracts (TULSA)

### **FINDING THE RIGHT BALANCE IN OFFSHORE DECOMMISSIONING THE DEEPWATER CHALLENGE**

**Accession Number:** 1998:22815

**Tulsa Document Number:** 687086

**Author:** PRASTHOFER, P H

**Corporate Source:** EXXON

**Source:** 9TH DEEP OFFSHORE TECHNOL. [DOT] INT. CONF. (The Hague, Neth, 11/3-5/97) PROC. v.1, sess. no.5, pp.1-13, 1997. (10 refs)

**Document Type:** Conference Article

**Language:** English

### **Abstract**

The petroleum exploration and production industry and contractor community face a considerable challenge over the next 25 yr to decommission ca 6,000 platforms worldwide, at a cost of ca US\$30 to 40 billion. Public attention and changing regulatory frameworks put increasing focus on environmental impact in the broadest sense, and socioeconomic issues such as fiscal considerations and potential job creation are also drawing attention. Deep-water decommissioning challenges provide opportunities as well as challenges. The use of floating production systems simplifies removal compared to fixed structures and provides opportunities for relocation and reuse. Existing and planned deep-water fixed structures pose the greatest challenge for removal or disposal operations. The concept of environmental life cycle analysis can provide a vehicle to integrate many of these issues and allow consideration of decommissioning issues from project outset. It is important to maintain the ability to assess decommissioning solutions

on a case-by-case basis to ensure that the right balance is achieved among technical requirements, cost, environment, and health and safety, while staying aware of public attitudes. The regulatory system also needs to be sufficiently flexible to account for evolution of technology and new solutions.

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EnCompass Literature (ENCOML)

### **An assessment of oil spill effects on pink salmon populations following the Exxon Valdez oil spill--1. Early life history**

**Author:** Brannon E L; Moulton L L; Gilbertson L G; Maki A W; Skalski J R

**Corporate Source:** (1)University of Idaho (2)MJM Research (3)Genesis Technical Services (4)Exxon Co USA (5)University of Washington

**Source:** ASTM 3rd Environmental Toxicology and Risk Assessment - Exxon Valdez Oil Spill Symposium (Atlanta 4/26-28/93) ASTM Publication "Exxon Valdez Oil Spill: Fate and Effects in Alaskan Waters" N.STP 1219 548-84 (1995) (1995), pp. 548

**Document Type:** Conference

**Language:** English

#### **Abstract**

An assessment of oil spill effects on pink salmon populations following the Exxon Valdez oil spill--1. Early life history. Field programs were initiated within a few days of the -Exxon Valdez oil spill in Prince William Sound to assess effects on critical early life stages of pink salmon, *Oncorhynchus gorbuscha*. Pink salmon, the main salmon species of commercial importance in Prince William Sound, have a 2 yr life cycle and spawn in the intertidal reaches of numerous small streams throughout the oil spill area, representing the species with the highest potential risk for spill related injury. Water and stream sediment samples from throughout the spill area were used to define the exposure of pink salmon to residual hydrocarbons from the spill. Mean sediment concentrations of PAH at .ltoreq. 300 ppb were measured in oiled streams in 1989 and, generally, followed a downward trend toward background in 1990 and 1991. These PAH concentrations were then used in regression analyses of potential effects on key early life stages of pink salmon. No substantial effects on the critical early life stages of pink salmon in Prince William Sound were found to be attributable to the spill. Map, diagram, tables, graphs, and 28 references.

#### **Encompass**

**Accession Number:** 1996:2648

**Document Number:** 4330720

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Rapra Abstracts (RAPRA)

## **RECYCLING REVISITED: THE ROLE OF THE PLASTICS INDUSTRY IN RECYCLING.**

**Author:** Prioleau R M

**Corporate Source:** Exxon Chemical Co.

**Source:** Polyolefins IX. Conference Proceedings Editor(s): SPE, South Texas Section; SPE, Thermoplastic Materials & Foams Div. Houston, Tx., 25th Feb-1st March, 1995, p.741-5. 42C1

**Document Type:** Conference Article

**Language:** English

### **Abstract**

Recycling in the USA is discussed in terms of the need for a balance between environmental and economic objectives. The roles of governments at all levels, environmentalists and consumers are mentioned, but the emphasis is on the role of the plastics industry. The industry should provide information on recycling, such as current recycling rates for various types of plastics products, the economics of various recycling or disposal options, and life cycle analysis of various plastics products. It should develop technology for plastics waste management eg. sorting systems, recycling processes, resin reclamation processes for conversion of resins back to feedstocks, it should encourage economically-sustainable recycling and seek attractive markets for reclaimed resins. The industry should also address the issues raised by customers, legislators, environmentalists and others.

### **RAPRA**

**Accession Number:** R:576322

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Chemical Abstracts (non-patent) (CABL)

## **Improving inherent safety with sealless pumps**

**Author(s):** Eierman, Ronald G.

**Corporate Source:** Exxon Chemical Co., Baytown, TX, USA

### **Source**

Proceedings of the Annual Loss Prevention Symposium (1995), 29th, Paper 1E pp. 23  
CODEN: PALSF9

**Publisher:** American Institute of Chemical Engineers

**CA Doc Type:** Journal

**Language:** English

### Abstract

Pump inherent safety can be significantly improved using properly designed seal-less pumps to reduce emissions and fires. Numerous surveys showed that the shaft seal is the dominate root cause of centrifugal pump failure in the chem. processing industry. As a direct consequence of a shaft sealing system failure, process fluid containment is impaired. Recent pump industry trends to mitigate the impact of such failures has been to add redundancy to the sealing system. These redundant systems can be as simple as the use of a back-up secondary control device like a close clearance throttle bushing or as complicated as a dual mech. seal system using a pressurized barrier fluid circulating between the double seals. Simply adding redundancy to the system does not eliminate the inherent failure modes of the primary element, they are simply backed-up by a second layer. Instrumentation is added to the redundant sealing system to warn that one level of redundancy has failed and that corrective action should be taken before the second level of protection is lost. Redundancy does not eliminate the root cause of failure. Inherent pumping system safety has not been significantly improved by redundant sealing systems. The added complexity of dual sealing systems only results in a softer failure mode with a warning that a level of redundancy has been lost, at the price of lower system reliability. Adding redundancy and instrumentation significantly increases the no. of system components and consequently reduces overall system reliability. Obviously, the sealing system must be eliminated from centrifugal pumps to improve the inherent safety of pumping systems. Business competition and societal pressure demand that inherent safety be increased, maintenance costs be reduced, and chem. emissions to the environment be eliminated. Progress made by one chem. manufg. company in meeting these demands, while satisfying the addnl. business objectives of safety, reliability, and profitability is reviewed. The mech. features and hydraulic characteristics of various types of seal-less pumps are described, including seal-less centrifugal pumps using canned design features and magnetic drive technol. Guidelines for economic justification of seal-less pumps vis-a-vis sealed pumps are outlined in a simple life cycle cost model. Seal-less pumps are not a panacea. As with most types of machinery, they are plagued by design limitations and must be applied to the system within these design limitations. Significant application criteria for seal-less pumps are highlighted. A cooperative program among seal-less pump users, manufacturers, university labs., and industrial component manufacturers to deliver a reliable, zero emission pump is also briefly described.

#### Chemical Abstracts

**Accession Number:** 1997:457370

**Document Number:** 127:85183

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Compendex (COMP)

### **Environmentally friendly films made with a new family of linear ethylene polymers**

**Author(s):** Halle Richard W.(1) Correspondence(s): Halle Richard W.(1)

**Corporate Source**

(1)EXXON Chemical Co, Baytown, United States of America

**Source:** Journal of Plastic Film and Sheeting (1994), Volume 10, Number 1, pp. 65-77, 11 refs.  
CODEN: JPFSEH ISSN: 8756-0879 Published by: Publ by Technomic Publ Co Inc

**Document Type:** Journal; Article; Experimental

**Language:** English

#### **Abstract**

The public's ever-increasing environmental consciousness is driving the plastics packaging industry to constantly consider the complete life cycle of their products. One avenue by which packaging film producers are responding to the 'green' movement is by manufacturing polyolefin-based films containing Post-Consumer Recycled (PCR) polyolefins. These types of films are commercial in a wide variety of end uses, many of which have been traditionally serviced by films made from high pressure process-low density polyethylene (HP-LDPE). One obvious technical approach toward improving on this effort is to produce a film having as high a recycle content as possible but with a strength and toughness similar to that of the original HP-LDPE films. Any polymer which could effectively incorporate very high (50%+) levels of PCR into these type films would be of significant interest to the industry. Several new linear ethylene polymers have been used to increase the recycle content of these type films to very high levels while maintaining good film toughness properties. A series of blown films produced during an early screening study demonstrated the good physical properties and acceptable processing characteristics of these high PCR content blends containing these unique linear ethylene polymers.

#### **EI COMPENDEX**

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Rapra Abstracts (RAPRA)

### **ENVIRONMENTAL CONCERNS AND PRESSURE SENSITIVE ADHESIVE TAPES FOR PACKAGING.**

**Author:** Jensen T B

**Corporate Source:** 3M Co.,Masking & Packaging Systems Div.

**Source:** European Tape and Label Conference. Conference Proceedings Editor(s): Exxon

Chemical Co. Brussels, 28th-30th April 1993, Paper 10. 6A7

**Document Type:** Conference Article

**Language:** English

**Abstract**

Concerns relating to the impact of plastic film backed pressure sensitive adhesive tapes on the environment are discussed in some detail. The paper discusses environmental advantages of these tapes over other methods for closure of packaging. Information presented includes performance of the tapes, source reduction, life cycle, reusability, recyclability and environmental compatibility.

**RAPRA**

**Accession Number:** R:511401

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Compendex (COMP)

**APPLIED GEOLOGY - OBJECTIVES, PROCEDURES, AND THE ROLE OF THE MINE GEOLOGIST.**

**Author(s):** Peters W.C.(1) **Correspondence(s):** Peters W.C.(1)

**Corporate Source**

(1)Behre Dolbear & Co, Tucson, AZ,, USA, Behre Dolbear & Co, Tucson, AZ, USA

**Source:** (1984), pp. 211-217, 14 refs. **Editor(s):** Erickson A.J.Jr. (Exxon Minerals Co, Houston, TX, USA) ISBN: 0895204312; 9780895204318 **Published by:** Soc of Mining Engineers of AIME **Conference:** Applied Mining Geology. Papers Presented at the 1983 Fall Meeting of the Society of Mining Engineers of AIME., Salt Lake City, UT, USA **Organizer(s):** Soc of Mining Engineers of AIME, New York, NY, USA **Sponsor(s):** Exxon Minerals Co, Houston, TX, USA

**Document Type:** Conference; (Conference Paper)

**Language:** English

**Abstract**

Geologists take the role of mine geologist when they apply their science to the design and operation of a specific minerals project. In doing so, they use the entire spectrum of procedures in economic geology and engineering geology to deal with a specific system of orebodies and associated environment. The objectives are established by stages in the life cycle of a mining operation as it goes from a prospect to a development project and on to a mine. This paper summarizes the elements of a mining geologist's role, with examples highlighted from the preceding papers.

**EI COMPENDEX**

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Compendex (COMP)

**APPLICATION OF LOGISTIC SUPPORT COST ESTIMATION IN A CONTRACTING ENVIRONMENT.**

**Author(s):** Collins D.E.(1) Correspondence(s): Collins D.E.(1)

**Corporate Source**

(1)Exxon Corp, Florham Park, NJ, USA, Exxon Corp, Florham Park, NJ, USA

**Source:** NATO ASI Series, Series F: Computer and Systems Sciences (1983), Number 3, pp. 551-582, 2 refs. Editor(s): Skwirzynski J.K. (Marconi Research Cent Chelmsford Engl) CODEN: NASFEG ISSN: 0258-1248 ISBN: 3540122877; 9783540122876 Published by: Springer-Verlag Conference: Electronic Systems Effectiveness and Life Cycle Costing., Norwich, Engl Organizer(s): NATO, Scientific Affairs Div; US Army, European Research Office, UK; USAF, European Office of Aerospace Research & Development, UK; Marconi Research Cent, Chelmsford, Engl Sponsor(s): Marconi Research Cent; Chelmsford; Engl

**Document Type:** Conference; (Conference Paper)

**Language:** English

**Abstract**

One application of estimation methodology in the life cycle cost (LCC) arena is found in the context of a contracting procedure used by the U. S. Air Force during the 1970's. The procedure, known as the Logistic Support Cost Commitment (LSCC) employs a logistic support cost model framework as a basis for a cost target and subsequently, an estimate. This paper describes the cost model framework and the class of estimators typically found in the LSCC. It shows how an approximate model developed by the author can be used to determine buyer and seller risks associated with using this class of estimators. An example is presented and conclusions regarding the strengths and limitations of this contracting approach as a life cycle cost control device are drawn.

**EI COMPENDEX**

1987-010012938

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Compendex (COMP)

**Management of logistic support costs in the equipment acquisition phase**

**Author(s):** COLLINS, D E

**Corporate Source**

Exxon Corp., Florham Park, NJ

**Source:** IEEE Transactions on Reliability. Vol. R-32, pp. 264-271. DOD-supported research. Aug. 1983 ISSN: 0018-9529 Published by: Institute of Electrical and Electronics Engineers, Inc , 445Hoes Ln, Piscataway, NJ, 08854-1331, UK, [mailto:inspec@ieee.org], [URL:http://iee.org.uk] Conference: United States

**Document Type:** Journal; Article

**Language:** English

**Abstract**

Management control objectives in the logistic support cost (LSC) commitment goal communicated to contractors by the DOD during equipment procurement are explored. A cost model framework (CMF) is communicated to the contractor in order to establish controllable equipment logistic parameters prior to bidding for contracts. A cost target is determined, including an estimate of how well the equipment will perform in the operational environment of the LSC. Particular attention is given to factors which will influence the life cycle cost of the equipment, and thus affect the cost estimates at the onset. Statistical sampling is performed with a Poisson failure assumption. Consideration is also devoted to questions of legal responsibility and risk.

**EI COMPENDEX**

1983:22599

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PQSCITECH (PQSCITECH)

**Some physiological aspects of the autecology of the suspension-feeding protozoa**

**Tetrahymena pyriformis .**

**Accession Number: 1982:126424**

**Author:** Swift, ST ; Najita, IY ; Ohtaguchi, K ; Fredrickson, AG

**Corporate Source:** Exxon Research Engineering Corp., Linden, NJ 07036, USA

**Source:** Microbial ecology. New York NY. Vol. 8, no. 3, pp. 201-215. 1982. ISSN: 0095-3628

**Document Type:** Journal; Article

**Language:** English

**Abstract**

Feeding, growth, and reproductive responses of the suspension-feeding protozoan *Tetrahymena pyriformis* to shifts up or down of the density of its bacterial food were observed. The rates of feeding, growth, and reproduction were determined by measuring the rates of uptake of viable bacterial cells, of change of mean volume of the protozoan cells, and of change of number of protozoan cells, respectively. The effects of the

nutritional status of the protozoans at the time of shifting were observed also. Results are interpreted in terms of the limited polymorphism exhibited in the life cycle of this organism. Responses in all cases seem to reflect a strategy for exploiting a patchy, transient environment, a conclusion already reached by several earlier investigators.

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PQSCITECH (PQSCITECH)

**SSA/AIDS: a graphic, interactive system for structured systems analysis.**

**Accession Number:** 1982:268545

**Author:** Hoffman, R D ; Harris, L N ; Bickham, B W

**Corporate Source:** Exxon Corp., Florham Park, NJ, USA

**Source:** Graphics Interface '82; Toronto, Ont ; Canada; 17-21 May 1982. pp. 107-114. 1982  
Conference: Graphics Interface '82; Toronto, Ont ; Canada; 17-21 May 1982

**Document Type:** Conference

**Language:** English

**Abstract**

Computer application requirements collection and analysis occurs at Exxon through a methodology called Structured Systems Analysis (SSA), which emphasizes the modeling of systems via a series of diagrams. In this paper, the authors discuss a tool, SSA/AIDS, which provides computer-based support for SSA via an electronic drawing board. The authors begin by describing the applications development life-cycle in general, and briefly describe Exxon's history with methodologies and tools which support this life-cycle. They concentrate on a specific task in the cycle, requirements collection, and present SSA as a methodology for accomplishing this task. They show how SSA is supported by SSA/AIDS, and conclude with a discussion of our plans to extend SSA/AIDS so that it supports the entire applications development life-cycle.

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EnCompass Literature (ENCOML)

**(A DISCUSSION OF THE) FUTURE FOR (CHEMICAL) INNOVATION (UNDER THE TOXIC SUBSTANCES CONTROL ACT (TSCA))**

**Author:** UMLAND C W

**Corporate Source:** (1)EXXON CHEM. AM.

**Source:** 183RD ACS NATL. MEET. DIV. IND. ENG. CHEM. ET AL. JT. 'TSCA'S IMPACT SOC. CHEM. IND.' SYMP. (LAS VEGAS 3/31-4/1/82) ACS SYMP. SER. N.213 23-38 (1983) (31 Mar 1982), Number 213, pp. 23

**Language:** English

### Abstract

[A Discussion of the] Future for [Chemical] Innovation [under the Toxic Substances Control Act (TSCA)] shows that a substantial disruption of new chemical development and introduction has occurred after .approx.3 yr of Premanufacture Notification (PMN) experience. This is largely a consequence of higher costs and uncertainty engendered by the PMN at an economically vulnerable point in the life cycle of innovative products. An intelligent and pragmatic application of TSCA exemption authority to well-defined low risk situations, e.g., for many polymers, site-limited intermediates, and chemicals produced at < 25,000 lb/yr, could improve the outlook for chemical innovation within the spirit of TSCA but well short of laissez faire "business as usual". Flow diagram, tables, graphs, and 13 references.

### Encompass

**Accession Number:** 1983:6268

**Document Number:** 3005958

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Compendex (COMP)

### **SSA/AIDS: A graphic, interactive system for structured systems analysis**

**Author(s):** HOFFMAN, R D; HARRIS, L N; BICKHAM, B W

#### **Corporate Source**

Exxon Corp., Florham Park, NJ

**Source:** National Research Council of Canada Proc.: Graphics Interface, 1982 p 107-114 (SEE N82-29909 20-61); Canada; 1982 Conference: National Research Council of Canada Proc.: Graphics Interface, 1982 p 107-114 (SEE N82-29909 20-61); Canada

**Document Type:** Conference

**Language:** English

### Abstract

Computer application requirements collection and analysis by structured systems analysis (SSA) through a methodology which emphasizes the modeling of systems via a series of diagrams is discussed. A tool, SSA/AIDS, which provides computer based support for SSA via an electronic drawing board is examined. The applications development life

cycle in general, and history with methodologies and tools which support this life cycle is described. A specific task in the cycle requirements collection, and SSA as a methodology for accomplishing this task are presented. It is shown how SSA is supported by SSA/AIDS, and plans to extend SSA/AIDS to support the entire applications development life cycle are also discussed.

**EI COMPENDEX**

1982:47061

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PQSCITECH (PQSCITECH)

**Submerged production system - a final report**

**Accession Number:** 1979:16963

**Author:** Burkhardt,J.A. ; Michie,T.W.

**Corporate Source:** Exxon Co., USA; OTC-3450.

**Source:** In: Eleventh annual Offshore Technology Conference 1979 proceedings., Publ.by: Offshore Technology Conference; Dallas, TX (USA)., 1979., v.2, p.801-806, Proc. Offshore Tech. Conf. Editor(s): Troup,K.D. Conference: Presented at: 11. Annu. Offshore Technology Conference, Houston, TX (USA), 30 Apr 1979

**Document Type:** Book

**Language:** English

**Abstract**

The offshore pilot test of Exxon's Submerged Production System (SPS) has reached a successful conclusion. This pilot test encompassed the entire spectrum of SPS equipment, spanning from the well completion intervals to, but not including, common surface processing and storage facilities. Since the SPS is designed to meet all the life cycle needs of a subsea field, one of the objectives of the pilot test was to evaluate both the techniques and the equipment used to install, operate, and maintain a prototype version of the SPS. The equipment under test was designed for use in water depths up to 2000 feet, but with minor modifications it is capable of operating in significantly greater depths. Evaluation of pilot test results has shown that the deep water installation techniques are practicable and that the deep water maintenance machinery is competent to repair any failures likely to occur in an operating system. One of the most significant problems in conducting the pilot test was achieving adequate quality control during equipment manufacture. The test results have demonstrated that, with relatively minor modifications, the SPS is suitable for commercial application.

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Compendex (COMP)

## **Comparative efficiencies of alternative future automotive power systems**

**Author(s):** FETTERMAN, G P

**Corporate Source**

Exxon Enterprises, Inc., New York

**Source:** NATO Proc. of the 4th Intern. Symp. on Automotive Propulsion Systems, Vol. 2 p 855-864 (SEE N78-30370 21-31); International Organization; 1978 Conference: NATO Proc. of the 4th Intern. Symp. on Automotive Propulsion Systems, Vol. 2 p 855-864 (SEE N78-30370 21-31); International Organization

**Document Type:** Conference

**Language:** English

**Abstract**

An analysis of the overall energy efficiency of a small (2 + 2) urban vehicle powered by five different power trains, all with similar acceleration performance and payload capabilities is presented. The drive trains compared are: a hydrogen-fueled-spark-ignition engine, an advanced gasoline-fueled-spark-ignition engine, diesel engine, a diesel /electric hybrid, and a pure electric with an advanced motor /controller and battery. The test weight of each vehicle is varied so that differences in both power system weight and chassis weight propagation are reflected. Each vehicle is mathematically modeled and driven over the EPA urban driving cycle so that its road load energy requirements are generated. The energy usage of each vehicle is then traced through its drive train and fuel processing efficiencies and measured in terms of raw energy in the ground. Estimates are made of the energy used in the production of each vehicle, and the total life cycle energy consumption is calculated.

**EI COMPENDEX**

1978:4348

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