

Appendix H: *EUB Decisions Relating to Oil and Gas Activity near Urban Areas*

1. Acclaim Acheson Field Blowout – EUB Investigation Report - Edmonton

Date	Blowout – December 2004 Report Date – July 2005
Location	Enoch Reserve – Adjacent to the City of Edmonton west boundary
Incident Summary	<p>On December 12, 2004, a blowout occurred in Parkland County, just west of the Edmonton city limits, and flowed until January 10, 2005. During this flow, more than 500 members of the Enoch First Nation were evacuated as the wellsite personnel and response organizations were unaware that the EPZ, had it been calculated, was 220 metres, and that it did not have any residences inside this zone. The incident was caused by an underground explosion that resulted in a downhole casing failure and an uncontrolled flow of gas and formation water. A crater was formed at the time of the blowout and subsequently expanded as the fluid was released. The well was ignited and relief wells were drilled to regain control of the well.</p> <p>At the peak of the incident, Acclaim had over 160 vacuum trucks collecting the produced fluids. It installed three monitoring wells around the 2-26 wellsite and conducted testing of the site. In the EUB's view, Acclaim's responses were acceptable for managing the release volumes of oil and water, and indicated they believed the result would be limited to short-term impacts that could be remediated.</p>
Principle Issues, Decision and Principles Involved	<p>Setback Distances With the exception of Health Canada, setback distance was not a topic raised by agencies during the incident investigation period. Health Canada acknowledged that the risk of serious upstream oil and gas incidents was low, but suggested a review of the minimum setback distances with relation to public facilities and high density locations would be prudent to reduce the potential for large-scale health risks posed by upstream oil and gas incidents.</p> <p>Emergency Response The report outlined a series of failures in the emergency response provided; most of which were related to access to information and the interaction between Acclaim, the EUB, the County, and other response personnel. None of these failures are related to the positioning of wells in relationship to the public or setbacks.</p>

2. Petrofund Armisic Hearing – Edmonton

Date	May, 2006 <i>EUB Decision 2005-085: July 28, 2006</i>	
Location	Edmonton	
Proposal	Petrofund proposed a sour oil well be drilled inside the City of Edmonton in a field adjacent to a subdivision at an existing wellsite. The emergency planning zone was 500 metres (adjusted to accommodate families up to a maximum of 1.2km), and involved 13 families. The H ₂ S concentration was approximately 1.1%. If the well were successful, it was likely there would be a number of additional wells drilled from existing wellsites. This additional production had the potential to significantly extend the economic life of the existing production facilities.	
Principle Issues	<ul style="list-style-type: none"> • Need for the well • Emergency Response Planning (integration with the City of Edmonton Disaster Services Emergency Response). Emergency response required detailed discussions by Petrofund, the City of Edmonton, and Capital Health and resulted in a “unified” implementation agreement. • Field Development plan (Extent of development, timeframe, and potential sunset clause on operations). The interveners (members of the public) and individual land owners planning development asked for a sunset clause on operations. Petrofund indicated it could not forecast the economic life of the field based on existing information and was not willing to agree to a sunset clause. The public also had concerns that Petrofund’s voluntary asset retirement fund may not be available to reclaim the sites. • Operational Matters: The operational history of previous owners, and Petrofund, was brought into question as the community believed there were nuisance and safety issues. 	
Board Decision and Principles Involved <i>Decision 2005-085</i>	Land Use – COE COE Urban Development Process	<ul style="list-style-type: none"> • While the Board sympathized with the land developer, it did not see a need to condition the well licence to a specific timeline for completion of operations. The Board accepted the field development plan presented by the applicant represented an acceptable and reasonable development scenario designed to maximize the resource and minimize the impact on future developments, as well as provide local residents with an indication of future activity by the applicant.
Cont’d - Board Decision and Principles Involved	Stakeholder Engagement - EUB Safety and Emergency Planning	<ul style="list-style-type: none"> • The company’s public consultation process should provide specific information for residents to distinguish between the ongoing production operations ERP and the drilling and completion ERP.

<i>Decision 2005-085</i>	Safety and Emergency Planning	The ERP required an exercise to test the company's ability to implement the plan, and that the City of Edmonton should participate.
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3. Ketch Resources Hearing - Pembina

Date	October, 2005	
Location	Westrose	
Proposal	Ketch applied for approval to build a pipeline from a well to a battery site. There were various interveners, with potential impact on subdivision plans, safety, and excessive tree removal within the Battle Lake watershed.	
Principle Issues	<ul style="list-style-type: none"> Public safety and impact on proposed subdivisions that the setbacks may have. 	
Board Decision and Principles Involved <i>Decision 2005-129</i>	Land Use – Provincial	<ul style="list-style-type: none"> The Board stated that once reserves are discovered, it is in the public interest to ensure that they are produced in an orderly and efficient manner...
	EUB Application Process	<ul style="list-style-type: none"> The EUB denied the application due to insufficient information (on impacts of each of the routing options being considered) being provided by the applicant.
	Land Use - Provincial	<ul style="list-style-type: none"> As part of its participant involvement program, the applicant is expected, among other things, to minimize the cumulative impacts of energy development and to show that they have applied good planning practices with respect to the public and the environment. The proponent of a project must show clear evidence that it has adhered to this regulatory expectation by demonstrating that it has met the special needs of local authorities.
Cont'd - Board Decision and Principles Involved <i>Decision 2005-129</i>	EUB Application Process COE Oil and Gas Licencing Review Process	<ul style="list-style-type: none"> The proponent of a project must show clear evidence that it has adhered to this regulatory expectation by demonstrating that it has met the special needs of local authorities... The Board believes that counties and municipalities also share a responsibility to assess any potential impacts of a proposed energy development on their community and to engage the EUB processes as appropriate to present their assessment to the Board.

4. Dynegy Energy Inc. Hearing – Okotoks

Date	August, 1999	
Location	Okotoks	
Proposal	Dynegy applied to extend the life of a sour gas pipeline which had a 15 year approval period with a mandatory review as part of the pipeline approval granted in 1984.	
Principle Issues	<p>Although some parties contended that the 15-year approval was inflexible, this Board believes that its decision must be made considering current facts. The Board considers the issues respecting the application to be</p> <ul style="list-style-type: none"> • need to produce the reserves, • pipeline integrity and facility operations, • safety and risk, • compatibility of land development and sour gas operations, and • communication and consultation. 	
Board Decision and Principles Involved <i>Decision D2000-20</i>	Land Use Provincial Safety & Emergency Planning	<ul style="list-style-type: none"> • In addressing the relationship between surface developments and sour gas facilities the Board must first consider EUB Interim Directive (ID) 81-3: Minimum Distance Requirements Separating New Sour Gas Facilities from Residential and Other Developments and ID 97-6: <ul style="list-style-type: none"> ○ <i>Sour Well Licensing and Drilling Requirements.</i> These directives set out minimum setback requirements that must be maintained between sour gas facilities and surface development. Level-2 facilities, such as those in Section 24, restrict wells and pipelines from being located within 500 m of urban density development and 100 m of unrestricted country development.
Cont'd - Board Decision and Principles Involved <i>Decision D2000-20</i>		<ul style="list-style-type: none"> • The legislation gives the planning authority the right to increase the distances in consultation with the EUB. However, it may not decrease the distances. The purpose of setback distances is to provide a safe distance between sour gas facilities and the public.
		<ul style="list-style-type: none"> • The Board acknowledges that the city of Calgary discontinued the use of a Sour Gas Constraint Area as a planning tool in 1995 on the advice of the EUB. The Board believes that generally the city would now only consider the EUB's minimum setback distances as constraints to approval of surface development, and it does not

		believe that it is likely the city would impose a greater distance. The Board would expect that the city would rely on the Board's advice in this case as well.
		<ul style="list-style-type: none"> • The Board does not believe that it would be in the overall public interest to prematurely decommission sour gas facilities and forego important non-renewable resources in the event surface development did not occur as forecast. At the same time, the Board does not believe that it would be appropriate to approve Dynegy's request for a 15-year term of operations with a view period at the end without considering the interests of surface owners.
		<ul style="list-style-type: none"> • One option could include requiring the resource and land developers to jointly establish a mutual land-use and resource development agreement (LRD agreement) corresponding to the various municipal planning stages through phased construction, concluding with abandonment when construction commences in close proximity to the sour facilities.
		<ul style="list-style-type: none"> • The Board will not direct that additional wells be drilled in the area.
		<ul style="list-style-type: none"> • A point may be reached where sour facilities should be abandoned because housing is too close to the sour facilities.
Cont'd - Board Decision and Principles Involved <i>Decision D2000-20</i>		<ul style="list-style-type: none"> • The presence of sour gas should not hamper annexation or the development of the various municipal plans, including the growth area management plan, the community plan and/or area structure plan, the outline plan, and the tentative plan.
		<ul style="list-style-type: none"> • The Board agrees with both the applicant and interveners that intense urban housing very close to sour gas facilities is not prudent and should be avoided.
		<ul style="list-style-type: none"> • The Board believes the framework for the LRD agreement should be established within the next six months and should not wait several years down the municipal planning process.

5. Standard Energy Corp. Hearing – Grande Prairie

Date	May, 2005	
Location	Grande Prairie	
Proposal	Standard Energy applied to build a sour gas pipeline.	
Principle Issues	<ul style="list-style-type: none"> Intervenors asked the EUB to limit the use of pipelines, and to require removal of the pipelines once they were abandoned. 	
Board Decision and Principles Involved <i>Decision 2005-089</i>	Facility Abandonment	<ul style="list-style-type: none"> The Board did not condition the approval to restrict the use of pipelines, as this was in contravention of their proliferation policy. Under its current regulatory regime, the EUB requires that a pipeline abandonment application be filed by a licensee before a pipeline can be physically removed. This pipeline abandonment application would be subject to review on its own merits. Having regard for the above, the EUB's practice is to consider the appropriate abandonment procedure at the time the pipeline is no longer required.

6. Compton Hearing – Crossfield

Date	April, 2005	
Location	Calgary	
Proposal	Compton proposed drilling a low-pressure (similar to an Atco natural gas line in a residential area) sweet gas well in land that is included in the City of Calgary's annexation plans for the near future.	
Principle Issues	<ul style="list-style-type: none"> The intervenors raised concerns about the location of the well, future development potential and land use, compensation, and the devaluation of their land. 	
Board Decision and Principles Involved <i>Decision 2005-062</i>	Setbacks Land Use – COE Nuisance & Concern	<ul style="list-style-type: none"> The Board also agrees that reduced setbacks (i.e., less than 100 m) associated with these wells could be considered, as the substance is very similar to residential gas distribution systems. Given the evidence presented by all parties, the Board believes the City of Calgary should consider some relaxation of development setbacks at this location in the future.

7. Compton Hearing – SE Calgary

Date	January – March, 2006 <i>EUB Decision: 2005-060</i>	
Location	Calgary	
Proposal	Compton proposed a drilling program that involved six critical sour natural gas wells with H ₂ S concentrations of up to 36%, calculated emergency planning zones of up to 15km and approximately 250,000 to 300,000 people, and a reduced emergency planning zone of approximately 4km. Interventions were submitted by the City of Calgary as the company did not provide modelling information to justify the reduction in the EPZ and had not come to agreement on the emergency response, and by the Calgary Health Authority as they believed their plan did not meet the Board's requirements of health effects criteria and asked for a 20km EAZ based on SO ₂ . There were a number of positions submitted by land developers both for and against the proposal as Compton had agreed to	
Principle Issues	<ul style="list-style-type: none"> • Ability to carry out the emergency response plan, and the company's level of agreement with the municipal authorities involved in implementing the response. • Public safety issues related to potential exposures to H₂S and SO₂ both inside, and outside, the identified applied for reduced EPZs. • Potential impact on development plans for SE Calgary. • Need to expedite resource extraction in an area where urban development was progressing on a rapid pace. 	
Board Decision and Principles Involved <i>Decision 2005-060</i>	Communication Between Oil and Gas Companies and Public	<ul style="list-style-type: none"> • The conditions to gaining this (well licence application) approval required successful implementation of an appropriate public consultation program.
Cont'd - Board Decision and Principles Involved <i>Decision 2005-060</i>	Land Use Policy	<ul style="list-style-type: none"> • <i>COMMENT: Compton had agreed that it would terminate production from the wells and pipelines by a given date (15 years) if approval was granted. There was a confidential condition from a previous hearing decision which was suggested to contain a similar condition for operation of the area pipelines. This would tend to suggest that the EUB would consider sunset clauses on EUB approval for sour gas operations in extreme cases.</i>
	Safety & Emergency Planning	<ul style="list-style-type: none"> • The wells could be drilled, completed, and operated safely. (<i>From this it can be inferred that the EUB would likely consider that any well being drilled in the Edmonton area could – in their opinion – be drilled, completed, and operated safely.</i>) • Sheltering can be used as a principle means of

		<p>providing public protection.</p> <ul style="list-style-type: none"> • An EUB approved emergency response plan is to be based on a “Unified Command” approach to integrating the Operators and Municipal emergency response plans.
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8. Lockend Hearing – NW Calgary

Date	May, 1998 <i>EUB Decision: 99-16</i>	
Location	Calgary	
Proposal	<p>Canadian 88 proposed drilling a sour gas well approximately 11km NW of the City of Calgary. The proposed well was expected to produce gas with a sour gas content of approximately 34%, and a release rate of sour gas sufficient to generate a calculated emergency planning zone of 11.9km. Canadian 88 requested a reduced EPZ of 4km, and based the request on the basis of “immediate ignition”. (Note – this was prior to the introduction of the EUB Interim Directive 2001-5 that addresses the requirements for requests for reduced emergency planning zones.) Even with the reduced EPZ of 4km, there were a significant number of residences in the EPZ; many of which were located in remote, difficult to access areas.</p>	
Principle Issues	<ul style="list-style-type: none"> • The validity of the Canadian 88 argument that immediate ignition would negate the need for a large EPZ, and that a 4km reduced EPZ was appropriate. • The Calgary Health Authority objected due to their belief the ERP was insufficient to address the public health concerns related to an SO2 plume generated by an ignited well. There were also objections due to conflicting public land uses and the public consultation program introduced by Canadian 88. • Land development and conflicting land-use for sour oil and gas development and residential use. 	
Board Decision and Principles Involved <i>Decision D99-16</i>	Land Use – Provincial	<ul style="list-style-type: none"> • The EUB considered the well consistent with the current land use zoning. <i>COMMENT: The Board may base their evaluation of acceptability of a project on the societal risks involved – relative to other acceptable risks adopted by society as a whole.</i>
	EUB Application Process COE Urban Development Process	<ul style="list-style-type: none"> • The Board considered a conceptual development plan was adequate at that development stage as the well was exploratory. <i>COMMENT: A conceptual development plan may be all the EUB requires of an oil and gas company for an exploratory program.</i> • The EUB agreed with the company that future developments would require separate applications

		and the Board would deal with them at that time.
	Land Use – Provincial Safety & Emergency Planning	<ul style="list-style-type: none"> • The Board believes the public safety risks associated with the proposed well are representative of normal industrial risks accepted by society and that the well can be drilled safely. <i>COMMENT: Sour gas wells are considered by the EUB to be consistent with rural country development zoning. Larger emergency planning zones near urban areas are considered by the EUB to be consistent with urban land use.</i>
	Communication Between Oil and Gas Companies and Public	<ul style="list-style-type: none"> • The Board believes that the public must have sufficient information to participate meaningfully in the decision making process. The proponent's information must be extensive consistent, factual and disclosed in a timely way. <i>COMMENT: An extensive public consultation process is required when members of the public are unfamiliar with sour gas developments and the related emergency response plans.</i>

9. Startech Energy Hearing – Turner Valley

Date	April, 1999 <i>EUB Decision: 99-26</i>	
Location	Millarville (near Turner Valley, south of Calgary)	
Proposal	Startech Energy proposed an exploratory sour gas well with a proposed EPZ of 710 metres in a rural neighbourhood south of Calgary. While there were three residents in the EPZ, there were 48 in the EAZ (twice the planning zone).	
Principle Issues	<ul style="list-style-type: none"> • Proposed well and access road locations • Impacts of the proposed well and access road. • Status of a Development Plan • Public safety of area residents • Public notification and consultation 	
Board Decision and Principles Involved <i>Decision D99-26</i>	Land Use – Provincial	<ul style="list-style-type: none"> • The Board would not deny an application unless it would result in unacceptable impacts or clearly superior locations were identified. • If applicants and local residents do not come to a consensus on site selection, the company is entitled to choose a site for the purpose of completing and submitting its proposal. The ultimate decision on the suitability of the

		<p>proposed site will, in those circumstances, be made the by Board. It does not believe that a site should be selected by one group of people at the expense of another. <i>COMMENT: The ultimate decision on the suitability of the proposed site when the proponent and the landowner can not reach agreement, will be made the by Board.</i></p>
<p>Cont'd - Board Decision and Principles Involved</p> <p><i>Decision D99-26</i></p>	<p>Land Use – COE COE Urban Development Process</p>	<ul style="list-style-type: none"> • The Board recognizes the difficulties in providing details regarding future development in the area because of the uncertainties related to whether a reservoir exists and, if it does, the nature and extent of it. It accepts that only a conceptual development plan is possible at this time (i.e. – exploratory phase). Should the well be drilled and found to be economic, the Board expects future development to take into account all of the latest information available and the information to be shared with other operators to achieve a carefully planned and coordinated development in order to minimize impacts to local area residents. <p><i>COMMENT: A conceptual development plan is all that the EUB required for an exploratory well. If the well was successful, the Board expected a development plan would be prepared by industry – and not by the single company involved</i></p>
	<p>Safety and Emergency Planning</p>	<ul style="list-style-type: none"> • <i>COMMENT: The Board has not used a numeric risk guideline. It judges each application considering public safety risk, technical measures to control risk, economic benefits of the facility, costs to further reduce the risk, and factors such as perceptions of risk acceptability from public, industry and government perspectives.</i>