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How the Lodgepole Blowout led to DACC and Industry Recommended Practices (IRPs)

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Drilling and Completions Committee (DACC)

The Lodgepole Blowout

"17 October 1982 will likely be a significant date in Alberta's history. It was on that day at 14:30 that the well, AMOCO DOME BRAZEAU RIVER 13-12-48-12 (13-12 well), located 20 km west of the small hamlet of Lodgepole, blew out of control. For over 2 months specialists fought to regain control of the well and were finally successful on 23 December 1982."

Source: ERCB Lodgepole Blowout Report

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The Lodgepole Blowout

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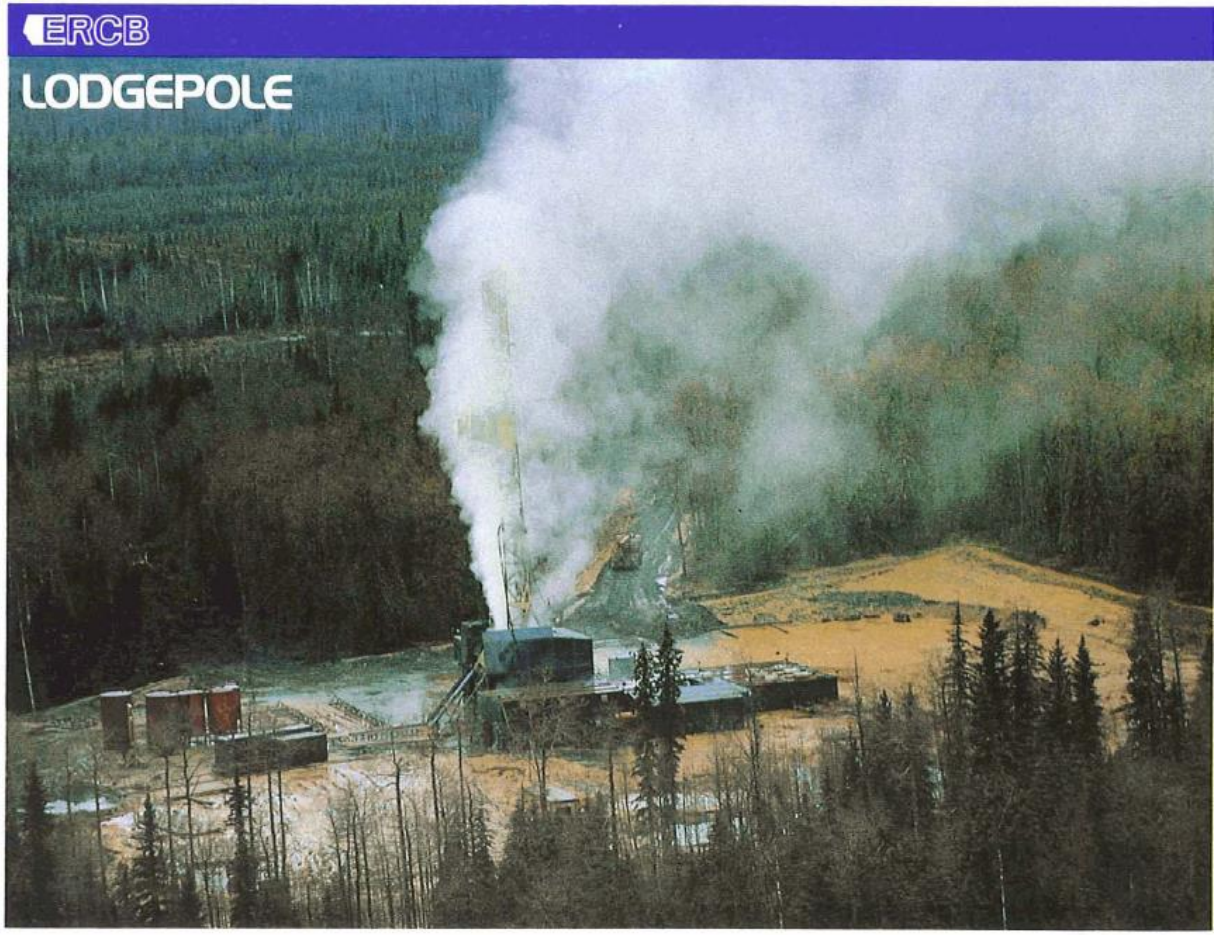
Blowout Prior to the First Fire



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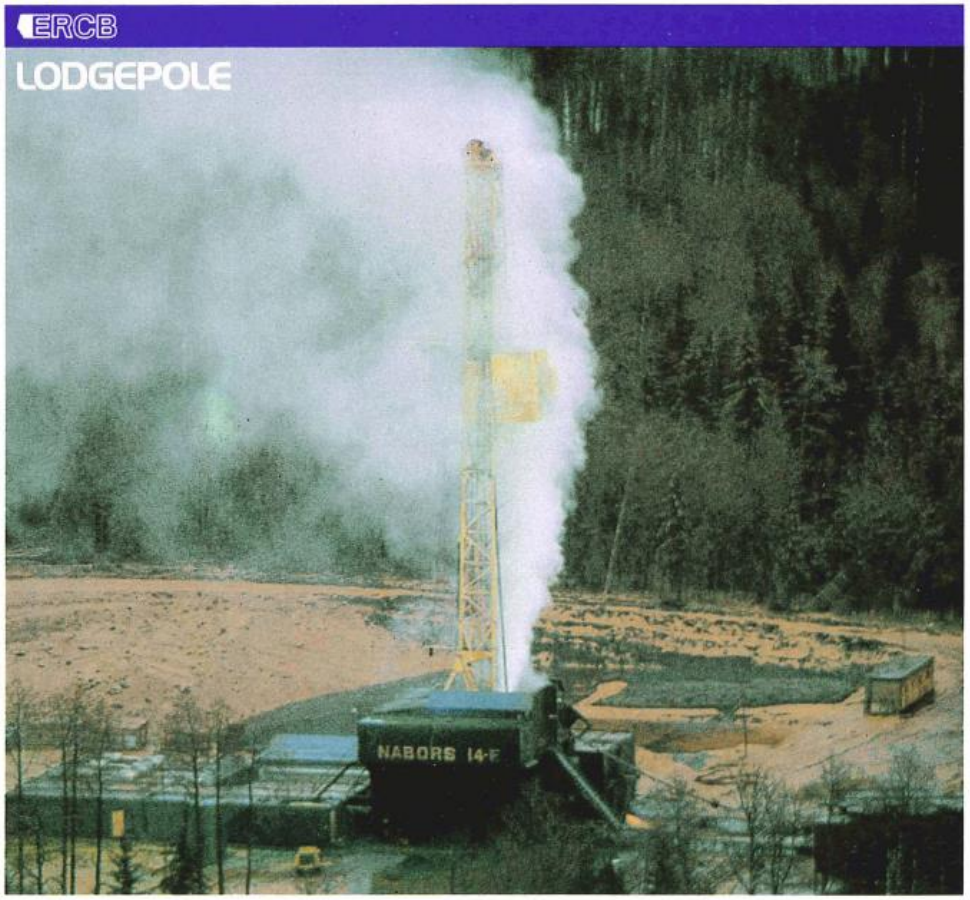
Close up of the Nabors Rig Prior to the First Fire



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The Blowout Area Against Its Forest Background

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Blowout Area Prior to the First Fire

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Well on Fire with Rig Debris Being Removed

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Heat Shielded Tractors Prepare the Site for Well Capping Operations

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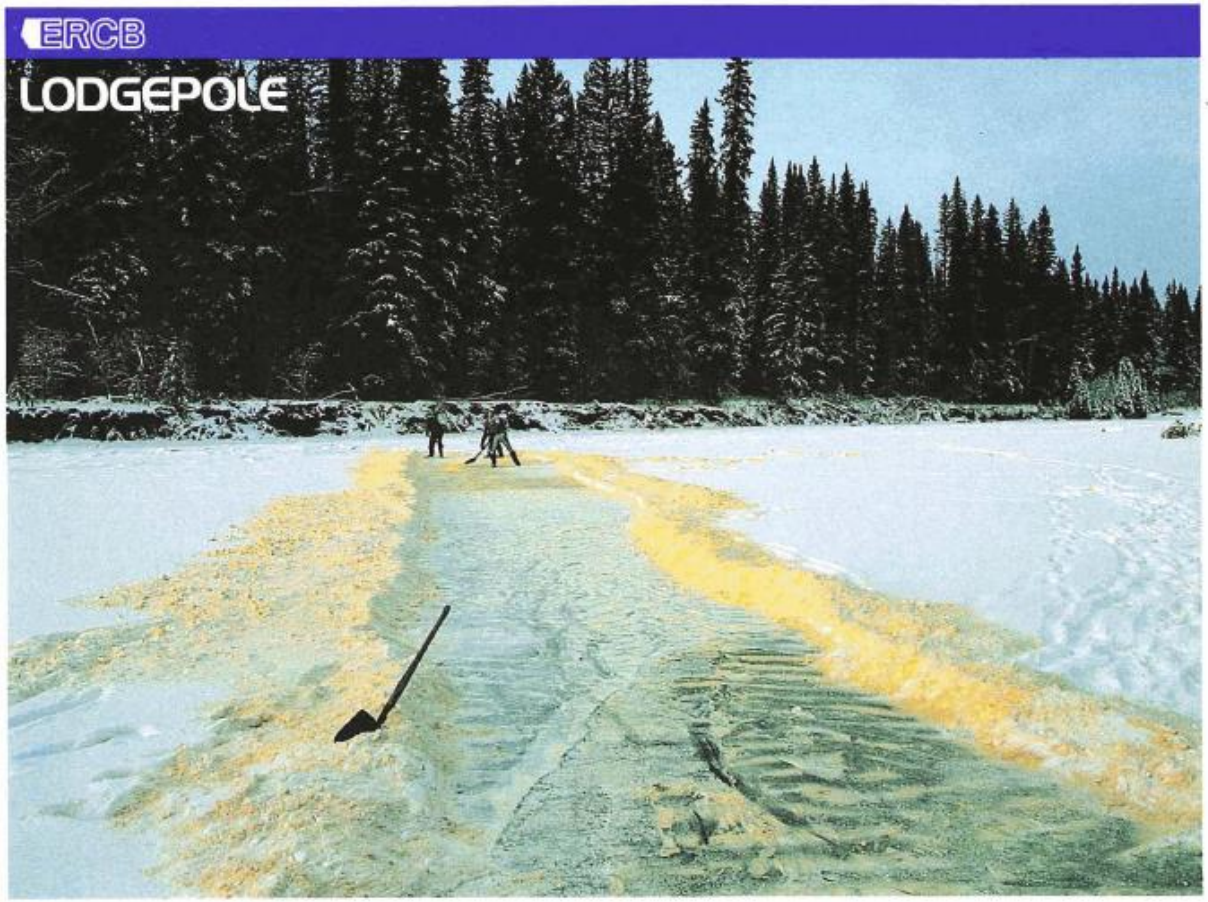
Workers Clearing Pembina River Ice to Assess Potential Damage



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Note Drill Pipe Above the Flame

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Note Drill Pipe Above the Flame

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Note the Drill Pipe Flowing Out of the Well

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Some of the Drill Pipe Blown out of the Well

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The Burned-out Area After the First Fire

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The Blowout Preventer Stack Recovered After the First Fire

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One of the Attempts to Extinguish the Fire

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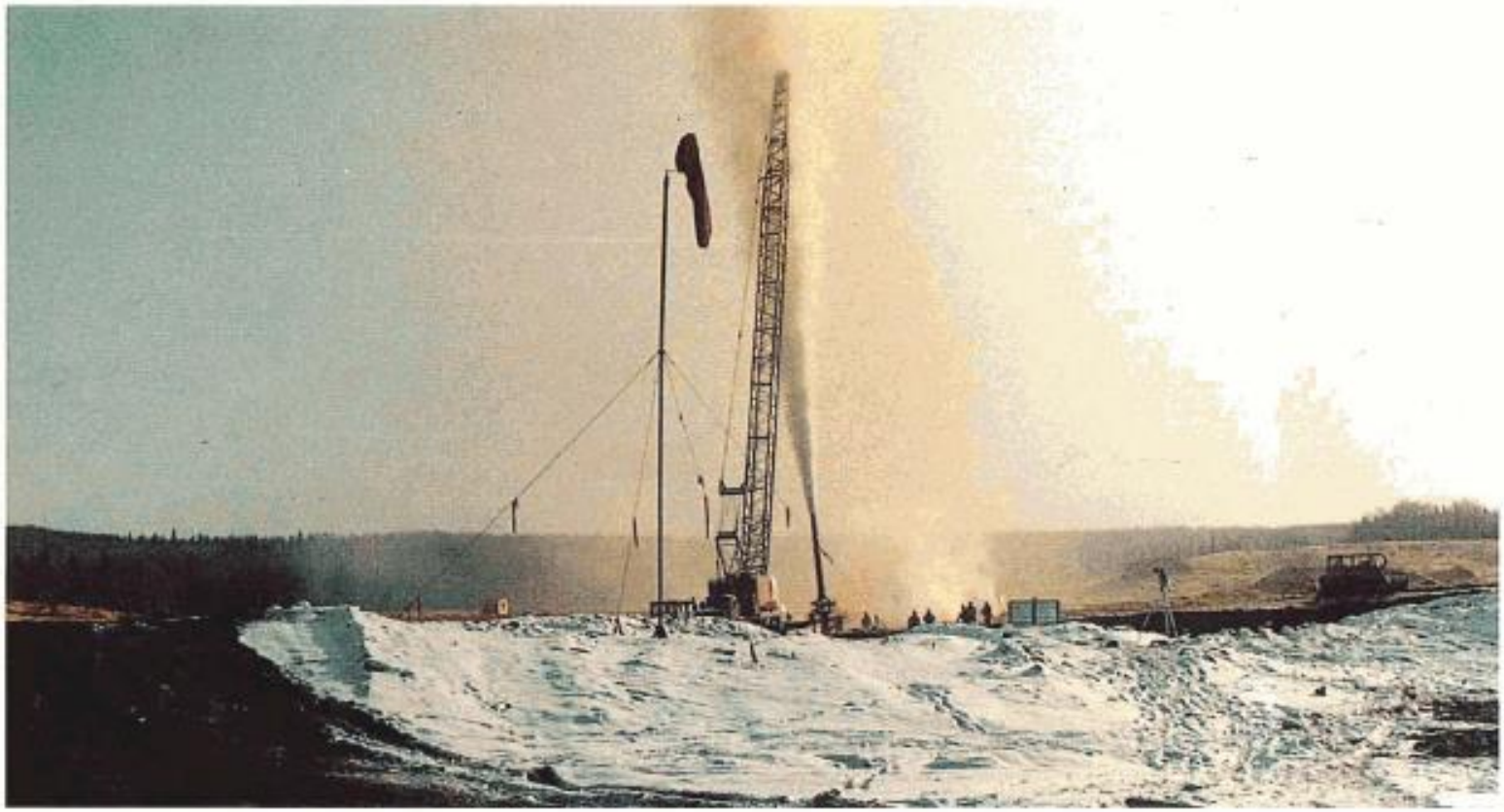
With the Fire Out, Workers Attempt to Cap the Well



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Final Capping of the Well Begins

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Condensate Laden Tree Near Zeta Creek

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Wellhead After Completion of the Well

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After the Blowout

- The Alberta Energy Resources Conservation Board (ERCB) held an inquiry into the blowout, and in 1984 released:
  - Decision D 84-5: Lodgepole Blowout Inquiry – Phase 2 Sour Gas Well Blowouts in Alberta: Their Causes, and Actions required to minimize their Future Occurrences
  - Decision D 84-5 recommended that a joint ERCB/industry blowout prevention review committee be established

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After the Blowout

- Blowout Prevention Review Committee (BPRC) formed in June of 1984 with representation from the ERCB, the Canadian Association of Oilwell Drilling Contractors, (CAODC) the Independent Petroleum Association of Canada (IPAC), and the Canadian Petroleum Association (CPA), IPAC and CPA were later merged and formed into the Canadian Association of Petroleum Producers (CAPP)

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After the Blowout

- June 1987 – BPRC approves Alberta Recommended Practice (ARP) #1 – Recommended Practices for Drilling Critical Sour Wells

- 1987 – a second ad-hoc committee, the Blowout Prevention Well Servicing Committee (BPWSC) was formed by the ERCB

- 1989 – The BPWSC approved Alberta Recommended Practice (ARP) #2 – Sour Well Completions and Servicing

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After the Blowout

- 1990 – membership in the BPRC/BPWSC expanded to include other oil and gas industry Associations and regulators from the four western provinces and the NWT

- Name of Committee was subsequently changed to the Drilling and Completions Committee (DACC) and name of Alberta Recommended Practices changed to Industry Recommended Practices (IRP) and former ARPs renamed as IRPs

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DRILLING AND COMPLETIONS COMMITTEE (DACC)

- The decision to change the name ARP to IRP is reflective of the fact that the recommended practices are being referenced for oil and gas operations across western Canada

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The DACC Mandate

- DACC is responsible for the development of recommended technical operating practices for the upstream oil and gas industry in the areas of drilling, completions and servicing of wells. The primary focus of DACC is to develop technical recommended practices where the objectives include cost efficiencies, technical optimization, productivity, safety and environmental performance

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DACC Key Principles

- To maximize the use and prevent the creation of unnecessary barriers to business, the DACC will develop IRP's in accordance with the following principles:

  - Collaboration
  - Consensus
  - Transparency
  - Due Process

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DACC Key Principles

- All organizations in the industry will be provided with meaningful opportunities to contribute to the development of IRP's, so as to ensure that these recommended practices do not favor particular interests.
- The DACC IRP's need to be effective and relevant to respond to regulatory and market needs, as well as to the scientific and technical developments in various sectors.
- The IRP's should not adversely affect fair competition or unduly constrain innovation and technical development.

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DACC Key Principles

- Wherever possible, the recommended practices should characterize desired outcomes rather than prescriptive practices
- The IRP's should avoid duplication of, or overlap with, the work of other standards-setting organizations
- The IRP's must respect legislative and regulatory requirements

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DACC Membership

- Regular (voting members):
  - Canadian Association of Energy Contractors (CAOEC)
  - Canadian Association of Petroleum Producers (CAPP)
  - Explorers and Producers Association of Canada (EPAC)
  - Petroleum Services Association of Canada (PSAC)

- Associate (non-voting) members:
  - Alberta Energy Regulator
  - British Columbia Oil and Gas Commission
  - Canada Energy Regulator
  - Manitoba Science, Technology, Energy and Mines
  - Saskatchewan Ministry of Energy and Resources
  - WorkSafeBC

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DACC Membership

Associate members:

Associate members act in an advisory capacity. As advisors, they will bring IRP issues to the DACC table, inform DACC if an IRP is, or will be, referenced in legislation, and review IRP's, as they are developed, to ensure the IRP is in compliance with current legislation. Associate members are encouraged to attend all meetings.

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What are Industry Recommended Practices

- A set of recommended best practices compiled by knowledgeable and competent industry personnel. They are intended to provide the user with advice regarding the topic addressed. While industry is strongly encouraged to utilize these recommended practices (or equivalent) they are not mandatory. Legislation and regulation take precedence over IRPs.

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How are Industry Recommended Practices Developed

- By working committees comprised of technical experts, representatives from applicable oil and gas industry sectors, and representatives from regulatory bodies
- Once the working committee has a final draft of the IRP ready, it is submitted to DACC for review
- After DACC review, the draft IRP is published on the Energy Safety Canada web site for broader industry review and comment
- DACC voting member associations are encouraged to make every effort to ensure their members are aware of the draft IRP and provide feedback
- This review period is a minimum of three months (90 days), but may take longer if significant revisions require circulating new drafts

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How are Industry Recommended Practices Developed

- IRPs are structured using the following parameters:
  - Related to drilling and completions operations
  - Follow recognized and generally accepted engineering practices (RAGAEP) to ensure that IRPs are technically correct from an engineering perspective and mitigate the risks involved with performing the operations outlined in the IRP
  - Provide a practical method of addressing the subject matter
  - Provide flexibility for alternative practices that provide an equivalent or higher level of engineering/innovation/technology
  - Meet or exceed existing legislative or regulatory requirements
  - Do not duplicate existing regulation, standards or guides
  - Ensure that safety and environmental protection are not compromised

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How are Industry Recommended Practices Developed

- Development process (DACC ToR):

- Proposals for new IRPs and changes to existing IRPs can be made by:

  - Industry trade associations
  - Regulators
  - Companies operating in the oil and gas industry
  - Individuals

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How are Industry Recommended Practices Developed

- Development process (DACC ToR):

- Issues of a technical or procedural nature requiring action by DACC must be presented ACC in writing by initiating party and must articulate:
  - A clear definition of issues;
  - Justification for the requested action;
  - Expected resources required (e.g. Technical sub-committees, etc.); and
  - Description of expected outcome/deliverables by DACC.

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How are Industry Recommended Practices Developed

- DACC will establish a technical sub-committee to determine if the subject under consideration meets the intent of a DACC IRP or whether it is best served by transfer to another organization. DACC reserves the final decision.
- If the decision is to develop an IRP the following process will be followed:

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How are Industry Recommended Practices Developed

- DACC will establish an IRP working committee and assign a number to the proposed IRP
- ESC will issue a call to the industry associations and regulators providing details of the proposed IRP and a call for volunteers to work on the IRP Committee
- The IRP working committee will develop a draft of the IRP with input from all sources the committee deems appropriate
- The draft is then presented to DACC for approval and if approved, will be posted on the ESC web site for the initial 90-day industry and public comment period

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How are Industry Recommended Practices Developed

- ESC will provide notification to industry of the posting and the voting members of the DACC will also notify their association members that the draft IRP is available for review and comment
- All comments received during the 90-day review process are reviewed by the working committee, and where the working considers it appropriate, changes are made to the draft based on comments received
- The draft IRP is then posted on the ESC website for a further 30-day review period with the same notification process as for the 90-day review

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How are Industry Recommended Practices Developed

- Once all revisions arising from the review process are complete the Working Committee submits the final draft to DACC for sanction
- DACC members then review the final draft with their own members and prepare for the sanction vote
- A DACC member may elect not to sanction an IRP, in which case DACC then decides whether to proceed on a non-consensus basis
- Once sanctioned by DACC, the IRP is sent to ESC for publication (electronically and paper)
- All IRPs are subject to review every five years or whenever there are changes to technology, procedures, etc. that warrant a review

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IRP - Legal Standing

- “As IRPs are voluntary, DACC has no legal authority to enforce the implementation of IRPs. As a non-governmental organization, DACC does not regulate or legislate. Governments may, however, reference IRPS in regulations or legislation. In addition, IRPs may become a market requirement for producers or contractors when determining how work will be conducted in the areas of drilling, completion and servicing of wells.” (DACC ToR)

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IRP – Legal Standing

- A court can and will assess all acceptable industry standards that are raised in evidence when assessing a party's due diligence, regardless of the issuing body and regardless of whether they are described as an "IRP", a "guideline", "standard", or "bulletin", or otherwise
- Crown Prosecutors will assess all the prevailing industry standards at the time of an incident and analyze whether all acceptable industry standards were met by the defending party. This is particularly the case where the legislation is silent on the specific actions required in relation to a certain task and the Crown has charged the party with a broad failure to meet its duty as an employer to take reasonable care to protect workers, or to eliminate and control hazards

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IRP – Legal Standing

- As a demonstration of this practice, a passage from the Worksafe Alberta Health and Safety Bulletin L1015 entitled “Due Diligence: states that, in response to the due diligence defences of foreseeability, preventability, and control, the prosecutor will:

- “compare the practices of you and your company against:
  - Relevant provincial, national and international standards;
  - Current industry best practices and specifications; and
  - Your company’s programs, procedures and policies”

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Industry Recommended Practices

#1 – Critical Sour Drilling (2015)
#2 – Completing and Servicing Critical Sour Wells (2022)
#3 – In-situ Heavy Oil Operations (2012)
#4 – Well Testing and Fluid Handling (Review in 2022)
#5 – Minimum Wellhead Requirements (2018)
#6 – Critical Sour Underbalanced Drilling (2004)
#7 – Competencies for Critical Roles in Drilling and Completions (2019)
#8 – Pumping of Flammable Fluids (2016)
#13 – Wireline Operations (2020)
#14 – Non-Water Based Drilling Fluids (2014)
#15 – Snubbing Operations (2020)

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Industry Recommended Practices

#20 – Wellsite Design Spacing Recommendations (under review)
#21 – Coiled Tubing Operations (2021)
#22 – RMD/MPD/UBD Operations (2021)
#24 – Fracture Stimulation (2016)
#25 - Primary Cementing (2017)
#26 - Wellbore Remediation (2020)
#27 - Wellbore Decommissioning (2022)
#28 - Drilling and Completions Waste Management (2022)
#29 - Temporary Pipework, Securement and Restraint (under development)
#30 - Temporary Wellbore Suspension (under development)

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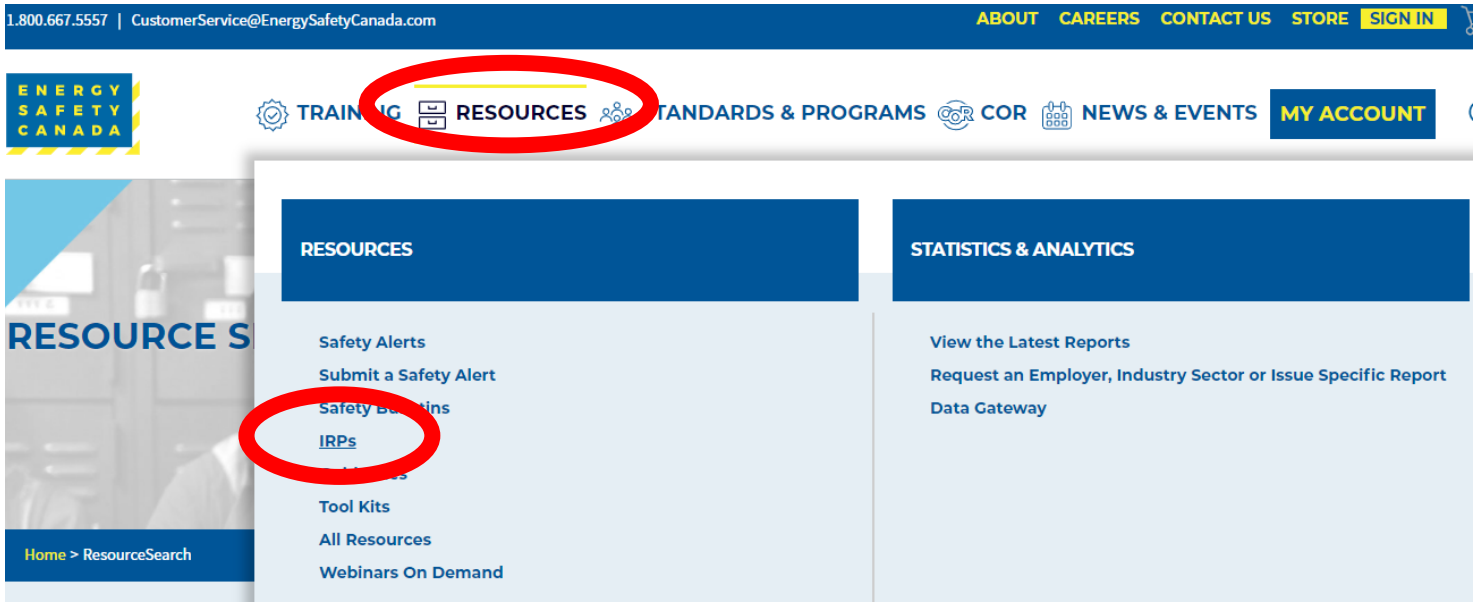
Industry Recommended Practices

To view and download the IRPs visit

EnergySafetyCanada.com



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Questions?

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