

ALBERTA ENERGY AND UTILITIES BOARD

Calgary Alberta

**UNION PACIFIC RESOURCES INC.
APPLICATIONS FOR A SOUR GAS COMPRESSOR STATION
AND ASSOCIATED PIPELINES
TELFORDVILLE FIELD**

**Decision 2000-58
Applications No. 1056567 and 1056568**

1 INTRODUCTION

1.1 Applications and Intervention

Application No. 1056567

Union Pacific Resources Inc. (UPRI) applied to the Alberta Energy and Utilities Board (EUB/Board), pursuant to Section 7.001 of the Oil and Gas Conservation Regulations, requesting approval to construct and operate a sour gas compressor station in Legal Subdivision (LSD) 16 of Section 29, Township 50, Range 2, West of the 5th Meridian in the Telfordville field.

Application No. 1056568

UPRI applied to the EUB pursuant to Part 4 of the Pipeline Act requesting approval to construct and operate approximately 19.8 kilometres (km) of sour gas pipeline with a maximum 219.1 millimetre (mm) outside diameter from five wells in the immediate area to the proposed compressor station and then terminating at a pipeline tie-in point at LSD 3-4-51-2W5M. The proposed pipeline would be designated as a level-1 facility for the purposes of setback restrictions. In this case, restrictions would be limited to the right-of-way.

At the hearing, UPRI withdrew pipeline segment No. 014 because the well in LSD 13-27-50-2W5M had been abandoned.

The two applications are hereafter referred to collectively as the Applications.

Intervention

The EUB received an objection to the Applications from EPCOR Generation Inc. (EPCOR) and Fording Coal Limited (Fording). Subsequently, the EUB directed that a hearing be held pursuant to Section 29 of the Energy Resources Conservation Act to consider the Applications and intervention. The Board received a collective submission from EPCOR and Fording on May 29, 2000. EPCOR is the registered owner of the Genesee electric power generating station and Fording operates the Genesee coal mine, which supplies coal to the Genesee station. EPCOR and Fording each have a 50 per cent interest in the mine and have formed a joint venture for the supply of coal from the Genesee mine to the Genesee station. EPCOR owns some of the lands upon which UPRI's proposed facilities would be located.

The attached figure shows the location of UPRI's proposed sour gas compressor station and pipelines, existing wells, and other existing facilities and features in the surrounding area.

1.2 Background

UPRI submitted applications in 1998 and 1999 for a new sour gas processing facility at LSD 16-29-50-2W5M, associated pipelines, and six gas wells in the Telfordville field. Examiners appointed by the Board considered the applications at a hearing in Leduc, Alberta, on January 6, 1999, and in Nisku, Alberta, on May 6 and 7, 1999. EPCOR and Fording participated in those proceedings.

Subsequently, on July 16, 1999, UPRI submitted an amendment to its pipeline applications and withdrew its sour gas processing facility application. UPRI indicated that it had made arrangements to process its Telfordville gas at ATCO Midstream Ltd.'s (AML) Golden Spike sour gas processing facility located at LSD 8-27-51-27W4M and, therefore, its project had changed. This amendment was made prior to the Board-appointed examiners issuing their recommendations regarding the previous proceedings.

Additionally, UPRI indicated in its July 16, 1999, submission that it would be applying for a centralized compressor station at LSD 16-29-50-2W5M to replace its proposed sour gas processing facility. The compressor facility would deliver UPRI's raw gas gathered from nine existing wells via its proposed pipelines to a proposed AML pipeline to transport the gas to the existing AML Golden Spike gas plant for processing.

In October 1999, the Board ratified the examiners' recommendations on the two previous proceedings in *Examiner Report 99-3*.¹ The Board took into consideration UPRI's proposed amendments and that UPRI's Telfordville project had changed significantly when its sour gas processing facility application had been withdrawn. As a result, the Board denied UPRI's pipeline applications and approved the six gas wells that were not directly related to the proposed pipeline gathering system, with the exception of the well proposed in LSD 13-27-50-2W5M.

1.3 Hearing

The Applications and intervention were considered at a public hearing in Calgary, Alberta, on June 6, 7, and 8, 2000, before J. D. Dilay, P.Eng. (Presiding Member), B. T. McManus, Q.C. (Board Member), and W. J. Schnitzler, P.Eng. (Acting Board Member).

Those who appeared at the hearing and abbreviations used in this report are listed in the following table.

¹ *Examiner Report 99-3*: Union Pacific Resources Inc., Applications for Well Licences and to Construct and Operate a Sour Gas Processing Facility and Associated Pipelines, Telfordville Field, dated October 15, 1999.

THOSE WHO APPEARED AT THE HEARING

Principals and Representatives (Abbreviations Used in Report)

Witnesses

Union Pacific Resources Inc. (UPRI)
B. Gilmour

R. Dutton, P.Eng.
A. Frankiw, P.Eng.
D. Hass, P.Eng.
I. Dowsett, R.E.T.,
of RWDI West Inc.

EPCOR Generation Inc. (EPCOR) and
Fording Coal Limited (Fording)
T. R. Davis

D. Topping, P.Eng.,
of EPCOR Generation Inc.
T. Munroe, P.Eng.,
of EPCOR Generation Inc.
B. Johnston, P.Eng.,
of Fording Coal Limited

Alberta Energy and Utilities Board staff
G. Bentivegna, Board Counsel
D. L. Schafer
S. Etifier
M. D. Brown, P.Eng.
T. Chan, P.Eng.

1.4 Motion to Dismiss the Intervention

At the hearing, UPRI made a motion to the Board to dismiss the intervention by EPCOR and Fording on the basis that its focus was primarily with respect to indemnity and insurance. It submitted that the EUB did not have jurisdiction to impose indemnity provisions on parties or to deal with matters of compensation.

EPCOR and Fording argued that they had a proper intervention before the Board and that the issue related to indemnity and insurance was only one aspect of their submission. They said that they believed that the EUB had an overriding jurisdiction to ensure that the public interest is met with respect to resource development. EPCOR and Fording said that the Applications were new and that the Board had not heard their evidence with respect to the new project. Therefore, it would be premature to dismiss the intervention. EPCOR and Fording requested that the Board deny UPRI's motion.

The Board agreed that parts of the Applications were new and that it had an obligation to hear parties who may be directly and adversely affected by its decisions. The Board noted that it had no jurisdiction respecting compensation for land usage. However, it believed that there were issues raised by the Applications and the intervention that should be heard by the Board. The Board denied UPRI's motion.

2 ISSUES

The Board considers the issues respecting the Applications to be

- the need for the compressor station and pipelines,
- land-use conflicts between coal and gas development,
- impacts to EPCOR or Fording operations, and
- emergency response preparedness.

3 THE NEED FOR THE COMPRESSOR STATION AND PIPELINES

3.1 Views of the Applicant

UPRI said that it needed the proposed facilities to produce proven reserves from its five existing gas wells located south of the North Saskatchewan River. It noted that a 1999 audit indicated that its total estimated gas reserves were 9.4 billion cubic feet (bcf) (approximately 265 million cubic metres [10^6 m³]). However, an internal reserves analysis conducted in May 2000 estimated the current reserves at 7.1 bcf (approximately 200 10^6 m³). UPRI said that the difference in the reserve estimates was primarily due to competitive drainage by a well offsetting its well in LSD 4-27-50-2W5M.

UPRI also said that it needed to produce its reserves to determine the viability of the reservoirs and forecast future development in the area.

3.2 Views of the Interveners

The interveners did not question UPRI's gas reserve estimates, the need to produce the reserves or establish technical information about the reservoirs, or the need for the proposed facilities. The interveners emphasized that in general they supported the development of oil and gas resources in the province. While they fully supported the need for UPRI to develop an emergency response plan (ERP), they found that it was not adequate to address their concerns.

3.3 Views of the Board

The Board accepts that UPRI has proven reserves in the area and that it would require the proposed facilities to produce and transport those reserves to processing facilities. Additionally, the Board recognizes that UPRI needs to produce the reserves in order to obtain important reservoir performance data for planning purposes and to obtain its share of the resource.

4 LAND-USE CONFLICTS BETWEEN COAL AND GAS DEVELOPMENT

4.1 Views of the Applicant

UPRI said that it became aware of concerns with respect to concurrent development of coal and gas resources in the area of the Genesee mine when the interveners made their original submission regarding the subject applications in February 2000. It said that although it had

several meetings and exchanged correspondence with the interveners regarding the location of its proposed project with the intent of minimizing the impact on the mine, at no time did the interveners previously express these concerns.

UPRI said that the interveners' request to have its approvals conditioned to require it to abandon any well and remove pipelines within the mine permit area was premature, as Fording had no imminent plans to mine near the existing or proposed facilities. UPRI said that it would be difficult to determine if there would be any impact until mining plans were actually defined. It stated that it would cooperate with Fording to coordinate the development of future mining activity within the vicinity of its proposed project. UPRI said that a one-year notice with a five-year moratorium from mining activity in its project area would not be acceptable to it.

UPRI stated that the interveners' February 2000 submission was the first time that the specific issue that UPRI's proposed pipelines 5 and 6 might interfere with coal mining activities had been raised. It noted that it had consulted with Fording in early 1998 regarding the proposed route and Fording had advised that mining would not likely occur in the area of the proposed pipelines for 20 years. UPRI said that it modified the route slightly at the request of Fording to avoid a small pocket of mineable coal located near the mine service area buildings in Sections 30 and 31-50-2W5M and that Fording had accepted the modified route. UPRI maintained that the proposed route for pipelines 5 and 6 was outside of the existing coal subcrop area and north of an area that had been mined and was currently being reclaimed by Fording. It said that there was no reason to reroute the lines again, as its revised proposal reflected the most direct route, impacting the least number of landowners, and that, furthermore, there were no current or apparent land-use conflict issues. It said that pipelines 5 and 6 were important to its short- and long-term development plans in the area. The life of the reserves for the applied-for project including the five wells was approximately seven years.

UPRI said that rerouting pipelines 5 and 6 to follow the north boundary of the mine permit area in Section 31-50-2W5M would remove it from EPCOR's lands but would impact other landowners and result in further public consultation.

4.2 Views of the Intervenors

The interveners requested that UPRI's approvals be conditioned to require the removal of any portion of the proposed pipeline gathering system within the Genesee mine permit area at UPRI's sole expense upon 365 days' notice from Fording of its intention to commence mining operations in proximity to the pipeline gathering system. Fording maintained that this condition formed part of its coal rights agreements that it had executed with other resource companies in the area, including UPRI's predecessor. The interveners said that this agreement allowed them to have orderly and planned development of the coal field and cost-effective delivery of coal to the Genesee station. The interveners explained that they may need to conduct premining exploration 10 to 20 years in advance of actually proceeding with new mining operations in an area. They may need to install infrastructure such as roads or power or undertake topsoil removal 5 to 10 years prior to mining. They pointed out that this premining exploration and infrastructure could be a heavy financial burden to invest in only to be faced with the risk of not being able to exploit the coal. Fording noted that it was currently mining in Section 24-50-3W5M and Sections 19, 20, and 21-50-2W5M, with some topsoil removal also occurring in

Section 22. It said that its mining operations in general were currently going from a west to east direction and progressing south.

The interveners requested that the Board condition the approvals to require UPRI to alter or relocate pipeline segments 5 and 6 of the proposed gathering system to minimize the incursion of those segments in the permit area of the Genesee mine. They said that they must allow for a 30 m buffer zone between their excavation and wells, pipeline rights-of-way, and other utility corridors and, thus, lines 5 and 6 could sterilize a significant part of their coal development rights. They also said that there was a small pocket of mineable coal in Sections 30 and 31-50-2W5M that they might consider using some time in the future as a contingency coal supply to the Genesee station in the event of a catastrophe at the mine. Fording noted, however, that this would require an amendment to its mine licence. The interveners suggested an alternative route for lines 5 and 6 from LSD 4-31-50-2W5M to 12-31-50-2W5M and then having the pipeline follow the boundary of the mine permit area to the proposed compressor station in LSD 16-29-50-2W5M. They stated that this route would create minimal interference with their coal rights and would not be onerous to UPRI.

Fording said that pipelines 5 and 6 were also in close proximity to its mine services buildings, which are occupied by 10 to 20 staff on day shifts. It said that since the lines would be sour, it was concerned with the health and safety of its employees.

The interveners said that without the above terms and conditions, as well as indemnity and insurance coverage, the proposed UPRI project should not be approved.

4.3 Views of the Board

The Board notes the various issues raised by the parties with respect to conflicts between coal and resource development. However, it believes that it is in the public interest to have the parties work together to avoid direct conflicts and to allow for the orderly, efficient, and economic development of both the coal and gas resources.

The Board finds that Fording does not have any near-term plans for mining activity in its permit area that would be in direct conflict with UPRI's existing wells, proposed compressor station, or proposed pipelines, including lines 5 and 6. The Board also notes that any consideration to mine the small pocket of coal in Sections 30 and 31-50-2W5M or within close proximity to lines 5 and 6 would require an amendment to the mine licence. The Board notes that the licence amendment application would provide the EUB with a detailed development plan with which to consider and assess any conflict issues when mining plans become imminent. The Board does find it reasonable, however, that the coal producer provide a one-year notice of its definitive mining plans to UPRI. The Board notes that there is provision in the Pipeline Act for an affected party to apply to the EUB for an order directing that a pipeline be relocated, a recourse that would be available to Fording if it could not reach an agreement with UPRI.

In addition, the Board also notes that UPRI selected the pipeline reroute for lines 5 and 6 in consultation with the interveners so as to avoid any conflict with future coal development. As a result, the Board will not require the conditions requested by the interveners to be attached to any approval of the Applications.

5 IMPACTS TO EPCOR OR FORDING OPERATIONS

5.1 Views of the Applicant

UPRI said that it participated in a rigorous process to understand and address the interveners' concerns regarding the risk of an evacuation or closure of the Genesee station or mine as a result of its proposed operations. UPRI prepared a hazard assessment in April 1999 using what it believed was a screening-level approach due to its conservative assumptions. It addressed all of the proposed UPRI facilities and determined that a guillotine rupture of a pipeline represented the maximum hazard. The assessment demonstrated that there was no chance of fatalities at distances greater than 250 m. There was also less than a one in a million chance of hydrogen sulphide (H₂S) being present at the boundaries of the coal mine and generating station with sufficient quantity and duration to cause an interruption to the interveners' business activities. A further reassessment using a lower pipeline pressure to correspond to the AML pipeline system showed that predicted concentrations from a pipeline failure at the closest distance to the mine would be half of the original predictions. Concentrations at the closest distance to the generating station would be similar to original predictions. An additional assessment using the much lower pressure of 690 kilopascals (kPa) for the gathering system upstream of the proposed compressor station showed the potential for H₂S concentrations of 0.5 parts per million (ppm) at the interveners' facilities as a result of a guillotine rupture of the closest section of the proposed pipeline.

On the basis of these assessments, UPRI believed that an incident at its facilities would not represent an unacceptable risk to the interveners. Further, UPRI noted that the interveners' facilities were beyond any of the proposed project's emergency planning zones (EPZs).

Notwithstanding, UPRI, EPCOR, and Fording jointly developed an ERP to outline the recommended response of the interveners in the unlikely event of an H₂S release from UPRI's facilities. However, in response to the possible consequence scenarios depicted by the interveners, UPRI stated that there would never be a situation in which a 24-hour or 30-day evacuation would be necessary. It believed that the interveners' operations could be interrupted for a maximum of one hour.

UPRI submitted that the interveners did not provide any evidence to contradict the hazard assessments.

UPRI also pointed out that sour gas development currently existed in the vicinity of the interveners' facilities, including some in closer proximity than UPRI's proposed facilities. Further, a sour gas plant with higher H₂S concentrations, but at a greater distance, was in place before the interveners' facilities were constructed. Therefore, the interveners should have been aware of the fact that they were locating in the proximity of sour gas operations.

Further, UPRI pointed out that similar risks existed within the interveners' facilities, such as those related to the storage and handling of hazardous substances, including small quantities of H₂S. An incident resulting in a release of one of these substances could require the interveners to undertake an emergency response that might include evacuation.

In response to the interveners' concerns about the risk to their operations, UPRI reiterated its undertaking to provide them with insurance policies for the proposed gathering system and compressor station in accordance with its letter of December 3, 1999, and the same insurance protection ordered by the Surface Rights Board. UPRI noted that the Surface Rights Board ordered it to obtain the insurance outlined in its Decision No. 2000/0055 dated April 5, 2000, pertaining to right-of-entry orders to EPCOR and Fording lands. In essence, UPRI said that it must obtain comprehensive general liability insurance, together with umbrella or excess liability insurance with a limit of not less than \$100 million per occurrence to cover all of its facilities and operations on LSD 2-17-50-3W5M (LSD 2) and LSD 3-17-50-2W5M (LSD 3). The policies must include, but are not limited to, coverage for bodily injury, death and property damage, personal injury, contractual liability, products and completed operations, broad form property damage, independent contractors, explosion, collapse, and underground hazards. Furthermore, it must obtain "all risks" insurance, for including mechanical breakdown and electrical breakdown, covering loss or damage to UPRI's real and personal property (or property of others for which it has assumed responsibility to insure), including without limitation UPRI's property and operations on LSD 2 and LSD 3. EPCOR and Fording would have no liability for the payment of premiums for the insurance and any deductible amounts incurred would be the sole responsibility of UPRI. EPCOR and Fording must be included as additional insureds and be covered by UPRI's applicable insurance policies to the extent of any liability assumed by UPRI for the benefit of EPCOR and Fording in respect of UPRI's operations on LSD 2 and LSD 3. All applicable insurance policies would provide EPCOR and Fording with 30 days' prior notice of cancellation. In addition, UPRI said that it would have to provide EPCOR and Fording with a certificate of insurance of such policies and will provide certified copies evidencing annual renewals of these policies within a reasonable period of time following the renewal date.

UPRI stated that it was also willing to indemnify EPCOR and Fording on reasonable terms such as those contained in the Alberta Surface Lease Agreement executed for the previously proposed sour gas plant at LSD 16-29-50-2W5M. UPRI argued that the indemnity requested by EPCOR and Fording was one sided and unreasonable, as it would make UPRI responsible for damage that it did not cause and for damages exceeding what EPCOR was liable for under its Genesee Power Purchase Arrangement (PPA). In support of its position, UPRI again cited the decision of the Surface Rights Board, which stated "that there is no justification to include the onerous indemnity clause for this level of risk." UPRI argued that an indemnity was not the answer to the concerns of EPCOR and Fording about the risk of an excursion of H₂S resulting in an evacuation of the Genesee station or mine. It noted that the interveners' concerns were addressed through careful, expert evaluation of risk, together with a complete and comprehensive ERP. Therefore, UPRI submitted that the public interest could be better protected in this manner and that the existence of an indemnity had no bearing on the public safety or the supply of electricity to Alberta consumers. UPRI added that the interveners could seek damages for power station interruptions that might result from UPRI's operations in the courts, even without an indemnity provision.

UPRI took the position that insurance and indemnity provisions were a commercial matter and that the Board did not have jurisdiction to set such terms. UPRI argued that the purpose of an indemnity clause was to compensate the intervener and that in *Decision 99-13*² the Board had determined that issues of compensation were not within its jurisdiction. UPRI added that it had serious concerns about the precedent that the interveners were attempting to set by requesting that the proposed provisions on insurance and indemnity be conditions to approvals in the Telfordville area and the industry at large. UPRI submitted that current oil and gas standard industry indemnity language is widely accepted and is more than sufficient in these circumstances. UPRI requested that the Board not attach insurance or indemnity conditions to any of the approvals for the proposed facilities.

5.2 Views of the Intervenors

The intervenors stated that they did not want sour gas development within a distance that could threaten their operations and that they had concerns with respect to the conclusions reached in UPRI's hazard assessment. They noted that the assessment did not state that an emergency event requiring the evacuation of the Genesee station or mine could be totally discounted but, rather, indicated that the probability of an emergency event would be low. The intervenors stated that the Genesee station was not designed to run unattended, thus making evacuation an undesirable option. While the intervenors agreed with the applicant's stance that the probability of an accidental release of sour gas was low, they believed that the impacts resulting from an evacuation of the station or mine were great enough to be considered unacceptable.

In addition, the intervenors objected to UPRI's consideration of a 100 ppm H₂S concentration as one of the criteria in its hazard assessments. They believed that the assessments should not have considered H₂S concentrations above 20 ppm, the point at which evacuation would be required. Also, the intervenors said that the indoor H₂S concentrations predicted by UPRI for the generating station were too low due to the high air exchange rate for that building. A high air exchange rate would allow more sour gas to enter the building than would otherwise be the case.

EPCOR said that the two generating units at the Genesee power station are base-load units that produce approximately 13 per cent of the total energy consumed by Alberta consumers. In the case of a shutdown of the Genesee station, the Alberta Electric Integrated System would not be able to carry the impact of a sudden loss of 800 megawatts (MW) without loss of firm loads. Therefore, in response to a sour gas release impacting the Genesee station, EPCOR would try initially to unload the station gradually in the first ten minutes so that other generators in the provincial electric system would be able to pick up at least 400 MW simultaneously. At the end of the first ten minutes, should the H₂S levels decrease, EPCOR would gradually put the units back to full load. Providing that there were no problems in ramping down and subsequently ramping up the loads on the generating units, there would not be any physical damage to the equipment of the units.

Should the sour gas release result in evacuation levels of H₂S that persist for more than ten minutes, EPCOR would have to take the units completely off line and evacuate the station. The

²*Decision 99-13*: Crestar Energy Inc., Applications to Construct and Operate Sour Gas Batteries and Pipelines, Vulcan Field, dated June 2, 1999.

generating units would then be relying on auxiliary equipment to continue operating without having personnel there to monitor operations. The interveners said that an evacuation would also have serious financial consequences for them due to equipment damage and financial penalties arising from their obligations included in their Genesee PPA. Costs could be passed on to Alberta consumers pursuant to the Electric Utilities Act Temporary Suspension Regulation for events prior to January 1, 2000, or pursuant to the Genesee PPA force majeure provisions for events after December 31, 2000. EPCOR pointed out, however, that it had no assurance that the relief would be available to it or that it would provide complete relief of its obligations. Therefore, EPCOR submitted that its situation was different because of the public interest component involved. EPCOR requested that insurance and indemnity conditions be placed on any approval of the Applications to ensure that the costs that may arise as a consequence of a sour gas release are not borne by the electricity consumers of Alberta.

EPCOR said that in a 24-hour evacuation of the station it estimated that the two Genesee generating units could be out of service for two weeks while remedial work was carried out on damaged equipment. It estimated that the cost to Alberta consumers could be \$6 to \$30 million, depending on the time of year of the outage.

According to EPCOR, in the event of an evacuation lasting longer than 24 hours, the extent of the damage to the generating equipment at the Genesee station could be so extensive that it would take up to two years to repair damaged equipment and place it back into service. EPCOR predicted that as a result of such an outage, the spot market price for electric energy could double for at least one year and total costs of \$870 million might be passed on to Alberta consumers.

Fording said that if the Genesee mine would have to be evacuated due to a sour gas excursion from the proposed development, it would impact the Genesee station as well as the mine, since the two operations were integrally connected. Fording said that the ash from the Genesee station, the waste product from the combustion process, was disposed of at the mine. Since the silo storage capacity for ash at the station was limited to 18 hours, the Genesee station would either have to close or obtain special operating permission to allow the ash to be stockpiled on site temporarily if the mine were evacuated for more than 18 hours.

Fording described how an evacuation would impact the mine. Prior to its personnel returning to the mine and the resumption of normal operations, the entire mine area would have to be inspected with gas detection equipment for safety reasons. It said that this could take a considerable time. It also noted that equipment would have to be inspected and serviced prior to being restarted, as adverse winter conditions could result in extra maintenance prior to restart. Fording said that there were over 100 motors and generators in various equipment at the mine, all of which had copper windings or wires that could be damaged as a result of an emergency shutdown and evacuation. It noted that if an emergency shutdown of the mine occurred in the winter, condensation could form in the motors and generators. This could cause the motors and generators to overload or trip out when restarted and result in damage that could take 30 to 50 days to repair due to the size of the units. If the draglines became inoperable under this scenario, Fording said it would have to continue to supply coal to the Genesee station. Therefore, it would have to relocate its smaller truck/shovel equipment operations to an area of the mine where the coal was on the surface. This would result in an additional financial impact to Fording.

The interveners had concerns regarding UPRI's commitment to obtain insurance because UPRI would not agree to have the commitment bind UPRI's heirs and assigns in the event of the sale, assignment, or disposition of UPRI's assets. Furthermore, the interveners said that their request for an indemnity was reasonable since they would accept an indemnity provision similar to the one set out in the Facility Crossing Agreement of the Canadian Association of Petroleum Producers. The interveners noted that UPRI had entered into this type of agreement with other parties.

As a result, the interveners said that the Board should attach insurance and indemnity conditions on any approval of the proposed UPRI facilities to protect the public interest. The interveners also said that the Board had the jurisdiction to attach conditions to any of its orders and emphasized that the case before the Board was exceptional because effectively the Applications raised two public interest imperatives for the Board. On the one hand, the Board must ensure the efficient development of energy resources and, on the other, the Board must protect the public interest by not allowing a development that could impact the public interest by affecting the continued operation of the Genesee station and mine. The interveners said that by imposing the conditions requested, the Board would effectively resolve these two imperatives.

The interveners requested that any approval issued by the Board should be subject to terms and conditions sufficient to protect the public interest and to fairly allocate the risks of the proposed development to UPRI.

5.3 Views of the Board

The Board notes the viewpoint of the interveners that the possible consequences of an evacuation of the generating station and mine are severe and, therefore, from their perspective, any probability exceeding zero is unacceptable. The Board is often tasked with making appropriate decisions on development of schemes that present risks to public safety and the probability of severe adverse impacts should an unlikely accident or event occur. As a result, the Board is very familiar with weighing issues of low probability but unacceptable consequences.

The Board has considered the risk of an uncontrolled release from UPRI's proposed facilities that might produce levels of H₂S sufficient to cause the impacts and evacuation scenarios described by the interveners and finds the risk to be extremely remote. The Board notes that UPRI's assessment of the hazards and risks associated with its project is based on very conservative assumptions. For example, UPRI used an H₂S concentration of 10 000 ppm, when in fact the wells associated with the project are mainly sweet or have maximum H₂S concentrations up to only 300 ppm. Nonetheless, the Board has assessed the risks on the assumption that the scheme could, if approved, operate with the gas quantities and compositions applied for, and the Board still finds the risk to be extremely low.

The Board notes that if there were a release due to a pipeline rupture, the duration of the event would be only a few minutes. The Board also notes that UPRI's wells in close proximity to the station and mine are sweet. The Board notes that if there were a sustained release from one of UPRI's five wells, it would be ignited. This would oxidize the H₂S to sulphur dioxide (SO₂). The resulting heat of combustion would enhance the dispersion of the SO₂ and result in lower

concentrations. Such action would reduce the likelihood that problematic concentrations of sour gas would reach the mine or generating station.

Notwithstanding the above, the Board notes that UPRI will have an ERP in place that clearly takes EPCOR's and Fording's operations and personnel into consideration in the unlikely event of an emergency situation at the proposed facilities.

The Board also notes that UPRI has proposed level-1 sour gas pipelines at 1 per cent H₂S (10 000 ppm). The pipelines would have setback restrictions consistent with that classification. In this case, restrictions would be limited to the right-of-way. If the pipeline's level designation were to change to a higher risk level in the future, it would trigger further consultation with stakeholders and an application to the EUB.

The parties raised the issue of whether the Board has jurisdiction to impose insurance or indemnity conditions within a Board order. The Board notes that although it has not imposed such conditions in the past, in carrying out its mandate and if it is in the public interest, it could impose conditions on an applicant related to the insurance and indemnity issues raised by the interveners. However, the Board must determine if the circumstances exist to justify the imposition of insurance and indemnity conditions. The Board is of the opinion that the Board's *Decision 99-13*, referred to by UPRI, is not applicable in this case. In that decision the issue of indemnification against farm relocation relating to compensation for land usage was raised, not the issue of damages arising from the operation of a facility. Furthermore, the Board notes UPRI's commitment to provide insurance as mentioned above.

The Board further notes that the interveners' operations are not without their own existing internal and external risks. There are other sour gas facilities in close proximity to the Genesee station and mine, and the Board has not been asked to require insurance or indemnity provisions on approvals for those facilities. The Board notes the amount and nature of the gas being handled by those facilities and concludes that the proposed UPRI development does not appear to present a greater risk than those facilities. Furthermore, the interveners have recourse through the courts if they suffer damages or losses resulting from UPRI's operations. The Board concludes that, in addition to the insurance protection that UPRI will provide in respect to the proposed facilities, the interveners may also take certain special measures, such as obtaining their own insurance to counter the small risk that sour gas development may present to their operations. The Board also notes that the Electric Utilities Act Temporary Suspension Regulation and the Genesee PPA force majeure provisions could be available to EPCOR to mitigate any financial losses it may suffer.

As a result, the Board will not require the insurance and indemnity conditions requested by the interveners to be attached to any approval of the Applications.

6 EMERGENCY RESPONSE PREPAREDNESS

6.1 Views of the Applicant

UPRI said that it provided the interveners with an ERP for the proposed project that exceeded EUB requirements for public protection measures. It stated that it developed Section 2 of the ERP in consultation with the interveners to address response criteria and actions for the Genesee station and the coal mine area. UPRi believed that it had worked diligently with the interveners and understood that Section 2 of the ERP had been accepted by the interveners prior to the commencement of the hearing. UPRi believed that the level of risk to the Genesee station and mine was very low, in fact almost nonexistent. Given that the Genesee station and mine are outside of the calculated EPZ, the probability that Section 2 of the ERP would need to be executed would be extremely remote. UPRi stated that it made significant efforts to address the interveners' concerns that an evacuation resulting in a shutdown of their facilities would be necessary. It said that Section 2 of the ERP states that sheltering would be an option for the Genesee station and mine personnel. UPRi said that sheltering could be considered with the use of some of the outlying buildings around the station that do not have extreme air exchanges, such as the Fording offices, maintenance areas, and security house.

UPRI committed to conducting a joint emergency response exercise with the interveners prior to start-up. It further stated that it would supply hand-held H₂S monitors and H₂S awareness training for the interveners' key personnel. While it was UPRi's intention to tie the proposed system into the AML Golden Spike facility, UPRi said that its personnel could respond to an emergency without additional support personnel. UPRi said that it would have mutual aid agreements with other operators in the area in place prior to start-up and noted that the municipal authorities in the area expressed no concerns. Notification and evacuation for the interveners' personnel who work outdoors would be conducted through UPRi's rovers, although it believed that the probability of a prolonged incident that would cause this response action was low. UPRi Telfordville field personnel would have a response time of 30 minutes during the day and 45 minutes at night. Additionally, UPRi's Rimbey area personnel, with a response time of 45 minutes, would fill support positions. UPRi would provide notification and advice to the Genesee station control room as to the appropriate procedures to be followed in the event of an incident. However, ultimately it would be the interveners' responsibility to ensure that those actions were taken.

UPRI explained that in the event of an incident, it would determine the source and direction of the release prior to implementing Section 2 of the ERP. UPRi stated that the wells tied to the system would be equipped with H₂S sensors so that a release of H₂S could be detected very early and a remote shutdown could be achieved quickly. As well, the emergency shutdown valves on the pipelines would limit the amount and duration of a sour gas release. It was UPRi's position that the evacuation/ignition criteria outlined in Section 2 were appropriate given the low probability of an incident affecting the Genesee station and mine. UPRi stated that it understood that the EUB requirement for emergency planning purposes is 100 ppm H₂S and it had developed its ERP based on that criterion. It said there are a number of published criteria for making decisions about H₂S exposures on a concentration basis.

UPRI said that having an ERP in place reduced the risk and threat to the public in the area. UPRI committed to update its ERP with current information and to submit support documentation with regard to its Section 2 evacuation/ignition criteria for review and approval by the EUB prior to start-up of the facilities.

6.2 Views of the Interveners

The interveners said that UPRI should accept the responsibility for the risks to the public interest due to an accidental release of sour gas from the proposed operation resulting in an evacuation of the Genesee station or mine. While the interveners accepted that the risk of evacuation of the Genesee power station and mine area was not high, they believed that the consequences of such an evacuation were so great that sufficient measures must be put in place to protect the substantial public interest.

The interveners said that the evacuation/ignition criteria related to the Genesee station and mine as set out in Section 2 of UPRI's ERP were unacceptable, as they did not conform to the Alberta occupational exposure limits or the EUB's requirements for evacuation of the public outside the EPZ. The interveners stated that sheltering would not be an option. They pointed out that the EPCOR generating station building had a high air exchange rate and could not be considered effective shelter. Also, several of the Fording employees at the coal mine worked outside and did not have convenient access to shelter. They said that although they had had several discussions with UPRI regarding Section 2 of the ERP, they had not agreed with the criteria listed. Further, they stated that egress routes to the north, south, and west did not currently exist and would need to be constructed and maintained year round for ease of evacuation. The interveners believed that if a plume were travelling toward the Genesee station or mine, the primary egress/access route to the east would be blocked.

EPCOR said that it tested its emergency response procedures typically once a year, with the involvement of the municipalities, Stars Air Ambulance, and the RCMP. These exercises ranged from a table-top review to a full-blown emergency simulation. It provided a description of events from a previous incident that led to evacuation of its nonessential personnel. The duration of the evacuation at the Genesee station was 2.5 hours, where a partial shutdown of operations was required but a complete evacuation of all essential personnel was not warranted. EPCOR further stated that the Genesee station had monitors and self-contained breathing apparatus, which its personnel were trained to use. Fording said that it had an ERP in place for the mine area that addressed the process for evacuation. However, because the mine was not designed to operate without personnel, the ERP specifically addressed the loss of supply of coal that would initiate the emergency reclamation process to ensure that there would be a constant supply of coal to the generating station during an emergency. Fording stated that at no time had the mine personnel had to carry out a complete evacuation. Fording said that it had developed evacuation criteria for monitored H₂S concentrations within the mine area and had tested its procedures with a fire drill scenario in the past. Further, Fording stated that it could not foresee any situation, other than the UPRI proposed operation, causing a complete evacuation of the mine area and personnel.

The interveners explained that while they were aware of other oil and gas operations in the area, they were unaware of their H₂S levels. Furthermore, they acknowledged that they did not have

any special provisions in place with other operators in the area regarding public protection measures for the Genesee station and mine area.

6.3 Views of the Board

The Board notes that there were no concerns or objections identified by the residents within the calculated EPZ. The Board recognizes that the procedures outlined in the ERP for protection of the public within the calculated EPZ are adequate and as well appreciates the considerable time and effort applied to the development of Section 2 by both the applicant and interveners. The Board also recognizes that the interveners' operations are beyond the calculated EPZ for the proposed development. The Board does not believe that the proposed operation poses a significant risk to the Genesee station or mine area. However, the Board requires operators to develop site-specific ERPs for sour facilities that may impact the public.

Although UPRI's plan focuses on actions to protect the public within the EPZ, it must also address how the plan will be coordinated with municipal and provincial plans for assistance and protection of the public beyond the EPZ. Local authorities also share the responsibility for protection of the public and should have complementary plans in place to provide assistance. The Board expects UPRI to coordinate its plan and procedures with the municipal and provincial plans.

Notwithstanding the minimal risk associated with this operation, the plan must anticipate the worst-case scenario. Accordingly, the Board would require the ERP to provide appropriate emergency response procedures for protection of the public beyond the EPZ if sufficient levels of H₂S extend beyond the calculated EPZ.

The Board notes that UPRI believed that a 100 ppm H₂S level is the standard EUB criterion used to develop an ERP. The 100 ppm isopleth is used for the development of EPZ calculations for wells and pipelines and is not intended for or acceptable to use as H₂S exposure limits. In reviewing Section 2 of UPRI's draft ERP, the Board further finds that the listed evacuation criterion of 60 ppm and ignition criterion of 100 ppm do not conform to EUB requirements for evacuation and ignition criteria at 20 ppm H₂S. In most operating facilities where the potential volume of sour gas is limited by emergency shutdown valves and line block valves, ignition of the release is not necessary. There are, however, situations at or near a wellhead where a sustained uncontrolled release of gas may have to be ignited, such as a blowout. Accordingly, the Board finds that UPRI must conform to the EUB's requirements as outlined in EUB *Informational Letters (IL) 89-15: Evacuation and Ignition Criteria for Sour Wells* and *IL 96-11: The Government of Alberta Emergency Response Support Plan for an Upstream Petroleum Industry Incident* in order to obtain approval of its ERP.

The Board appreciates EPCOR's and Fording's concern regarding the complexity of conducting a shutdown of their operations prior to a full evacuation of personnel. Emergency response planning is intended primarily for the purpose of protecting the public in the event of an accidental release from sour facilities. The Board recognizes that the concerns presented by EPCOR and Fording are somewhat unique and different from protection of the public for its safety.

The Board does not agree with UPRI's view that response actions could be conducted by the area operator and that deployment of additional support services would not be required. UPRI must conform to the procedures outlined in its draft Telfordville facility ERP, which includes dispatching applicable support services. As such, the Board requires UPRI to implement and adhere to appropriate procedures to ensure that the public interest is protected. The Board expects UPRI to review these details of its plan, update all applicable information, and submit the final plan to the Board for review and approval.

7 DECISION

Having carefully considered all of the evidence, the Board believes that UPRI's proposed project is in the public interest. The Board therefore approves Applications No. 1056567 and 1056568, subject to UPRI meeting all regulatory requirements and the commitments made in its applications and at the hearing. The approvals will be issued in due course.

Dated at Calgary, Alberta, on August 15, 2000.

ALBERTA ENERGY AND UTILITIES BOARD

(Original signed by)

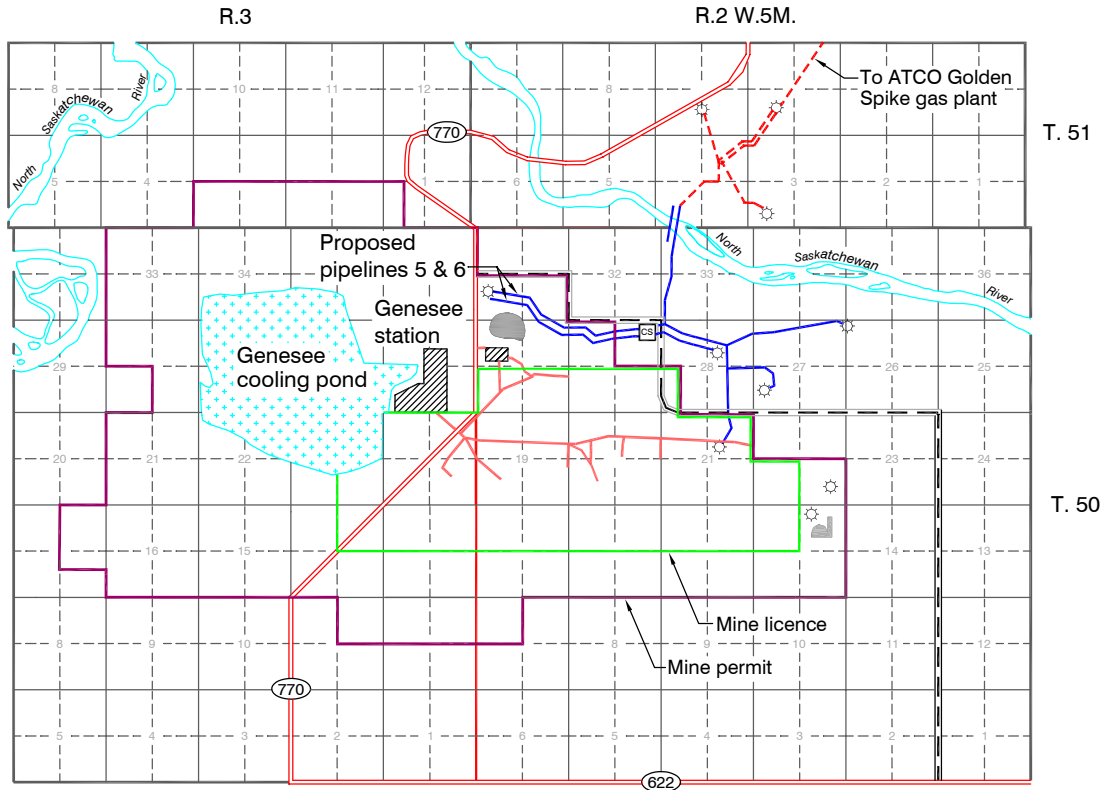
J. D. Dilay, P.Eng.
Presiding Member

(Original signed by)












B. T. McManus, Q.C.
Board Member

(Original signed by)

W. J. Schnitzler, P.Eng.
Acting Board Member



Legend

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|---|---|
|  Genesee power station and facilities |  UPRI proposed sour gas pipelines |
|  UPRI proposed sour gas compressor station |  Existing permitted sour gas pipelines |
|  Gas well |  Mine haul roads |
|  Existing sweet gas processing facility |  Mine permit area |
|  Genesee bypass road |  Mine licence area |
|  Existing small coal deposit | |

Telfordville Field

Applications No. 1056567 and 1056568

Union Pacific Resources Inc.

Decision 2000-58