

**IN THE MATTER OF** the Resource Management Act 1991

**AND**

**IN THE MATTER OF** a resource consent application by Hydro Developments limited

## **STATEMENT OF EVIDENCE OF DAVID HORN**

### **1. INTRODUCTION**

- 1.1 My name is David Horn. I am the National Consents and Environmental Programme Manager for Solid Energy. My role involves the management of all RMA consents for Solid Energy, its environmental programme, and submissions on policy and planning documents.
- 1.2 I have a Bachelor of Agricultural Science and I have held senior roles in regional councils in Nelson-Marlborough, Otago and the West Coast. I was Director of Resource Planning at Nelson-Marlborough Regional Council from 1989 to 1992, Senior Policy Analyst at Otago Regional Council from 1994 to 1997 and Policy Manager from 1999 to 2003. From 2003 to late 2006 I was Chief Executive at West Coast Regional Council. I have been involved in policy and planning under the Resource Management Act almost continuously since it was enacted in 1991.
- 1.3 This evidence sets out Solid Energy's concerns about the effects of Hydro Development Limited's proposal, not only on our existing and currently proposed activities, but particularly on future mining on the Stockton Plateau and the Upper Waimangaroa over at least the next 20 years.
- 1.4 We have been in discussions with HDL about how our concerns could be addressed. We have proposed a condition to HDL, which if they consented to it, could be imposed on any consents granted. I attach a copy of the suggested condition. I understand that given the nature of the condition it would be necessary for HDL to positively accept that they would be bound by the condition for it to be valid.
- 1.5 In our discussions with HDL they have indicated that they are in agreement in principle with the condition. However if HDL does not wish to accept this condition (or one to similar effect) then we would seek that the HDL application be declined.

1.6 The Commissioners may be aware that Solid Energy is also considering a hydro scheme which would use the water from the Stockton Plateau. This proposal has not advanced to the stage of lodging resource consent applications.

1.7 Solid Energy's concerns with HDL's proposal are not a result of a desire to promote our own hydro scheme in preference to HDL's. The concern arises because of the potential impact of HDL's scheme on Solid Energy's ability to manage its business now and in the future without imposing unacceptable restrictions and/or costs on our mining operations.

## 2. STOCKTON/UPPER WAIMANGAROA MINING OPERATIONS

2.1 Solid Energy mines coal at Stockton Mine on the Stockton Plateau under Coal Mining Licence ("CML") CML 37-150. The CML authorises the land use aspects of all existing and future mining activities until 2027. Solid Energy has been very open over the past few years about the fact that our planning shows that we expect the Stockton Mine to have at least a 20 year life going forward.

2.2 In addition, Solid Energy holds a range of water-related consents for the take, discharge, damming and diversion of water within the Stockton CML area. These consents were issued in 1989 and remain in operation until 2027. The consents (attached) are collectively known as Water Right 89/38. This right provides for the diversion of all streams across the plateau, various dams within identified catchments and for six separate discharges at various locations.

2.3 In addition to Water right 89/38, Solid Energy holds a number of more recently granted water and discharge permits for additional activities within the CML area. These include:

- a. Consents to divert the Mangatini Stream to a large storage area (known as a sump) and to the new Mangatini Water treatment Plant;
- b. Consents to take and use water for a coal processing plant;
- c. Consents to take and divert water which is used to suppress underground fires within part of the Stockton Mine.

- 2.4 Under these existing consents we already divert water from one catchment to another, for example at Mt Fred. Once mining is completed in particular areas we may well discontinue the diversions returning the water to the original catchments.
- 2.5 All of our later consents are for activities which were not envisaged when Water Right 89/38 was obtained, but the activities they authorise are now integral to the efficient operation of the Stockton Mine. There is considerably more coal within the Stockton CML able to be mined. I fully anticipate that, as further development of the Stockton Mine proceeds, there will be situations where we will want to obtain additional water consents to maximise the efficiency and minimise effects of the ongoing operation.
- 2.6 The reality is that the Stockton Mine is a long term project, which is planned and developed progressively and incrementally. Solid Energy is therefore effectively in the middle of a long term project for recovery of the coal within the Stockton CML, not all of which has been consented to date. I consider that it would not be possible to develop an appropriate application for consents for the next 20 years in a coal market environment that changes significantly over time. Coal resources that were considered uneconomic 5 years ago are now becoming economic because of energy cost increases and improved mining technology.
- 2.7 Solid Energy also holds the Upper Waimangaroa Mining Permit granted under the Crown Minerals Act. This MP provides access to the Upper Waimangaroa for mining until 2038. We have estimated that there is approximately 50 million tons of coal within the Upper Waimangaroa MP area which would allow mining in the Buller to continue for many decades (subject of course to obtaining consents).
- 2.8 The first development within the MP area has already been consented – the Cypress Opencast mine. We are presently preparing to exercise the suite of land use and water related consents for the Cypress Mine.
- 2.9 In addition to the consented Cypress Mine, it is Solid Energy's intention to consent additional mines within the Upper Waimangaroa MP area over time. Investigative work on additional projects is underway. In the same way as Stockton therefore, Cypress is just the first stage of the larger and long term project to mine coal within the Upper Waimangaroa MP.

- 2.10 Figure 1 attached shows the location of the Stockton CML and the Upper Waimangaroa MP. The catchments affected by Solid Energy's existing and future mining operations are exactly the same as those affected by the diversions and takes for the HDL project.
- 2.11 We expect over time that technologies for the appropriate treatment of mine water will change. And it may well be over time that the most appropriate treatments reduce the volumes of water entering the various catchments. For example, I am told that if air stripping/scrubbing technologies become economic, much of the mine water could be evaporated to the air. This would of course reduce the volumes of water available for any hydro scheme.
- 2.12 To properly manage our business it is important that we are free to adopt the most appropriate methods to treat mine water.

### **SWAMP**

- 2.13 Solid Energy has spent considerable time and money over the past few years implementing the Solid Energy Water Management Programme for the Stockton Mine (known as SWaMP).
- 2.14 The first stage of SWaMP has recently been completed with the commissioning of the Mangatini sump. The first stage is a series of water treatment reservoirs, pipelines and water treatment facilities. The total capital costs associated with this stage of the project is \$48M. Work is well underway for the second stage which will address the water quality issues associated with the historic and proposed mining of the Millerton area.
- 2.15 Solid Energy New Zealand Ltd is liable as the holder of CML 37-150 (Stockton coal mining licence) for the rehabilitation of the Stockton Mine. Rehabilitation liabilities at the Stockton mine are attributable to the activities both of Solid Energy and the former State Coal Mines.
- 2.16 When Solid Energy was created in 1987 the Crown entered into a contractual relationship with Solid Energy through the Asset Transfer Agreement whereby the Crown agreed to reimburse Solid Energy for all costs it incurred rehabilitating the Stockton mine that relate to rehabilitation required in respect of the State Coal Mine

activities. This is a private contractual relationship between Solid Energy and the Crown and is not available for any other party to take advantage of.

### **3. IMPORTANCE OF COAL MINING IN THE AREA**

3.1 Coal mining has had a long history in the Buller district since coal was first discovered in the area in 1846. Since then, mining has underpinned the development of the local economy. Solid Energy's West Coast operations currently employ approximately 1,000 people either directly or through its mining contractors. Rail haulage of coal by New Zealand Rail, port work at Lyttelton and laboratory coal work at SGS Laboratory in Ngakawau provide additional full time employment. Other contractors and services benefit significantly from Solid Energy's mining activities.

3.2 The company is one of the largest employers in the Buller district, with approximately 600 jobs (either directly or through its mining contractor) at Stockton Mine, Ngakawau coal handling facility and in the Westport office. Salaries and wages contribute around \$8.7 million to the West Coast economy annually. Indirectly, Solid Energy's operations support another 185 jobs and inject a further \$7.8 million into the economy.

3.3 Within the Stockton CML areas and the Upper Waimangaroa areas there are considerable coal resources. Recovery of these resources are subject to obtaining the necessary resource consents. However, assuming that that is achieved, these resources represent a continuation of the underpinning of the local (and national) economy for some decades.

### **4. IMPACT OF HDL PROPOSAL ON EXISTING OPERATIONS**

4.1 I read in the HDL AEE (page 19) that "*Discussions with SENZ have confirmed that the construction and operation of the Project will not adversely affect the operation of the Stockton Mine*". Unfortunately, I do not know the basis for this statement. There remain considerable unresolved issues about the impact of the HDL scheme on Solid Energy's existing operations.

4.2 Land access to Solid Energy land near the Granity Museum is required to enable the construction and operation of the Granity Power Station, Ocean outfall (micro tunnel) and emergency spillway to the Granity Stream.

- 4.3 Road access to the site will be required for both construction and ongoing operations. This will cause increases in traffic on both the public Millerton Road and Solid energy's private haul Road (the Burma Road). We remain cautious about the impacts of what is proposed and are unclear of the health and safety implications to our business, and costs involved.
- 4.4 I also note that land access will be required by HDL to Solid Energy land (under CML 37-150) for:
- a. the Granity Tunnel. The effects of this are unknown because the tunnel will be underneath our mining activities)
  - b. undefined exploratory drilling of Granity tunnel alignment, including temporary roading
  - c. construction of two tunnel air ventilation shafts (drop shafts), including permanent access roading for maintenance
  - d. in-stream intake weirs on Mine Creek, Granity Stream and Miller Stream, including permanent access roading for maintenance
  - e. the Mine Creek diversion tunnel including road access to the upstream portal
  - f. transmission line easements for construction and ongoing maintenance.
  - g. disposal to spoil from tunnelling
  - h. disposal of sediment from silt traps
  - i. construction zones areas around all the above including construction water management
  - j. laydown and workshop areas to facilitate construction
  - k. The walkway proposed as mitigation for the destruction of the first section of the nationally significant Electric Loco line.
- 4.5 Some of the above activities are also within the MAPPS boundary and would also require the agreement of the parties to that agreement (DoC, BDC, Millerton Protection Society and Solid Energy).
- 4.6 Access will also be necessary under Solid Energy's Ancillary Coal Mining Licence for the Stockton Tunnel (Stockton Bath house area).
- 4.7 A significant issue will be the need for an agreement to the realignment and construction of the section of the Haul Road that would be inundated by the Weka Reservoir. The shortening of this road will result in a steeper grade which may have significant impacts on haul efficiency and therefore costs of mining. The new section

of the road would require substantial maintenance while it settles. This activity would disrupt mining activities for an undefined time causing economic loss and potentially would raise health and safety issues that may or may not be able to be addressed in an active working mine situation.

- 4.8 The HDL proposal involves the inundation of part of the area of the Upper Waimangaroa MP which is valid until 2038 and for which we hold an access arrangement from the Crown. We remain unclear as to the implications of this reservoir for Solid Energy.
- 4.9 A transmission connection agreement will be required to connect to Solid Energy's private transmission network, including the installation of meters and protection equipment.
- 4.10 The proposal will disrupt the Department of Conservation's Fly Creek Haul Road which is maintained by Solid Energy and provides access to the Upper Waimangaroa MP. Solid Energy has access arrangements with DoC regarding this road which is in the process of being formalised.
- 4.11 There will need to be an agreement with Solid Energy to modify the Upper St Patricks dam so that it can be used for a third power station. Details of this activity appear to have been omitted from HDL's application, however the power output is included in the energy contribution of the proposal.
- 4.12 This list of effects has been generated from our understanding of HDL's proposal. I have listed substantial matters, but there would no doubt be other lesser matters that would impinge on our current operations, for example the location of concrete batching plants, explosive stores, area for site offices etc.
- 4.13 On several occasions HDL have requested Solid Energy to provide all access required give effect to their scheme. However, these discussions have only been quite general in nature. While we have not categorically refused to provide such access, no detailed discussions have been undertaken and we have not given any assurance that access will be granted. As can be seen from the above list reaching any agreement with HDL on these issues this is a substantial and multifaceted task.
- 4.14 To date, Solid Energy has been proceeding with the HDL application on the basis that it might be possible to agree on access issues separately to this consent process.

4.15 However, since lodging our submission it has become apparent that the grant of consents to HDL is very likely to adversely affect Solid Energy's mining operations on the Plateau over the next at least 20 years, unless that is clearly dealt with in the HDL consent.

## 5. IMPACT OF HDL PROJECT ON EXISTING STOCKTON WATER CONSENTS

5.1 As I have noted above Solid Energy holds a suite of consents for mining activities within the Stockton CML. Not all of these permits are currently being exercised, but if they were exercised that would have implications for the HDL project.

5.2 Solid Energy is allowed to divert Mine Creek around areas to be mined in the Millerton area. It is also able to discharge such diversions to the Mangatini Stream. The effect of such diversions and discharge on the HDL scheme would be to alter the quantity of water (flow rate and volume) reaching a diversion or interception point (creek sumps) within the HDL scheme.

5.3 It is important to Solid Energy that any consent granted to HDL recognises that should Solid Energy exercise any of its existing but unimplemented consents (which it is entitled to do before 2027) that could well affect the volume and location of water available for HDL. The HDL consent must not constrain or restrict Solid Energy's ability to exercise our existing consents. This means that Solid Energy is not able to guarantee to HDL (or the councils) that any particular amount of water will be available at any particular point for the HDL consent.

## 6. EFFECTS OF HDL PROJECT ON PLANNED AND FUTURE SOLID ENERGY PROJECTS

6.1 The mining of the Stockton and Upper Waimangaroa parts of the Buller Coalfield requires detailed and incremental planning. It is not possible to comprehensively plan the entire development of coal resources in these areas at any given time. That is because logistical issues such as access requirements, water management and overburden placement depend on the work which has gone before.

6.2 That is particularly the case in the Stockton operation where there is a range of coal types and qualities with a number of working faces open at any one time. Depending

on the coal specifications required by customers throughout the life of the mine, different areas of the mine are developed at different rates. Coals from different areas are blended with coals from other areas, and this is intended to continue, for example, with some of the Cypress coal being blended with Stockton coal. Moreover, the volatility of the coal prices and foreign exchange means that parts of the coal resource can become economic to recover at certain times and not others.

- 6.3 As a result, the scene is continually changing and we are constantly in a process of mine planning and adapting as we progressively mine the coal resource and plan the mining of further coal resources within the CML area. In this situation, it is not possible to determine precisely our operational needs (including water management) many years in advance. It is therefore crucial that we retain as much flexibility as possible so that as mining progresses we can design the most efficient operational methods. Any potential constraint on that flexibility risks increased costs, lower efficiency and ultimately an inability to recover coal resource.
- 6.4 An example of how this incremental planning operates is Millerton. Solid Energy proposes opening a new section of the Stockton mine known as "the Millerton Block" which is within the Stockton CML. Mining of the Millerton Block is important to the overall Stockton operation.
- 6.5 The Millerton Block lies within an area that has been previously mined (1876-1969) by underground methods. The former underground mine has left a considerable quantity of coal, estimated at about 10 million tonnes. Mining in the Millerton Block will enable production at Stockton to be maintained at or about current levels over the duration of the project which is 10 – 20 years.
- 6.6 As I have noted, Solid Energy holds a suite of water related consents for Millerton. However, those permits do not cover the full extent of the method of mining now proposed at Millerton. This is because since 89/38 was granted in 1989, we have been able to plan for and develop improved outcomes in this area of the mine. We would prefer to implement the identified improved outcomes rather than be constrained to the mine that would be permitted by solely relying on 89/38. To do this, Solid Energy requires additional water-related resource consents for the Millerton project. At Millerton, Solid Energy has decided to apply for a comprehensive suite of consents for the entire Millerton operation, even though some of the proposed activities are authorised under 89/38.

- 6.7 An application for those consents has been the subject of extensive investigations and planning over the last two years and was lodged with the Regional Council in March 2009.
- 6.8 If consent were granted to HDL without allowing the Millerton consents (assuming that they are granted) to take precedence, that may compromise the Millerton mine. This could mean an inability to recover the Millerton resource in the most efficient manner, and it would also negatively impact on the other key element of that project which is to improve the quality of the water in Mine and Miller Creeks, and ultimately the Ngakawau River.
- 6.9 I understand that HDL has indicated that they do not wish to constrain Solid Energy's Millerton application and mine,, though without a specific condition on the HDL scheme's consent I am not sure how this could be done.
- 6.10 It is these future activities that are Solid Energy's primary concern. We need a mechanism that allows us to be able to continue our mining operations preserving the flexibility we need to provide the optimum water solutions for the mine in the future. We think the way our mining operations and the HDL scheme can co-exist is by the imposition (with HDL's consent) of the proposed condition I have referred to and which is attached to my evidence.
- 6.11 Mr Mark Pizey has accompanied me today and he is available to the Commissioners to answer more detailed questions concerning water treatment on the Plateau, if needed.

**D Horn**

**August 2009**

### **Condition in any consents granted for HDL hydro scheme**

The consent holder has agreed that these consents are subordinate to:

- (a) any resource consents (including water and discharge permits) held by Solid Energy New Zealand Ltd for either its Stockton Mine (CML 37-150) or its Cypress Mine (41-515) at the date of the grant of these consents ("Existing Consents");
- (b) any variations to the Existing Consents;
- (c) and any other resource consents that Solid Energy New Zealand Ltd may apply for and be granted in respect of any mining operations within the Stockton Mine and/or any mining operations within its Upper Waimangaroa mining permit 41-515).

Mining operations shall not include any resource consent applications made by Solid Energy for any hydro schemes.

Subordinate shall mean that the resource consents held by Solid Energy or to be held by Solid Energy shall have priority over these consents such that these HDL consents may only be exercised or continued to be exercised to the extent that they are not inconsistent with any Solid Energy resource consents, and HDL expressly agrees that any effects of granting those water permits on the hydro scheme shall be disregarded by the consent authorities when considering any applications for resource consents or variations of resource consents by Solid Energy, and HDL shall, if requested by Solid Energy, provide a written approval under section 94 of the Resource Management Act to any such applications by Solid Energy.

**Note:**

Solid Energy has undertaken to HDL to give reasonable consideration to designing its future water management systems at the Stockton Mine and within the Upper Waimangaroa mining permit to the extent practicable (but without imposing any legal requirement on Solid Energy to expend any additional sums or to reduce its operational flexibility) to minimize impacts on the hydro scheme. If practicable Solid Energy will provide the opportunity to HDL to fund any additional works that may be necessary to reduce impacts on the hydro scheme.

The Consent Holder shall not exercise these consents until it has obtained written approval from Solid Energy to carry out any authorised activities on land within CML 37-150 (and ACML 37-150) and MP 41-515.