IN THE DISTRICT COURT
AT TAIHAPE

CRI-2014-067-000071
[2015] NZDC 13865

WORKSAFE NEW ZEALAND
Prosecutor

v

PETROLEUM SERVICES (2001) LIMITED
Defendant

Hearing: 20 and 21 July 2015

Appearances: I Brookie for the Prosecutor
D Neutze for the Defendant

Judgment: 21 July 2015

NOTES OF JUDGE B P DWYER ON SENTENCING INCORPORATING FINDINGS ON DISPUTED FACTS

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[1] Petroleum Services (2001) Limited (PSL or the Defendant) appears for sentence on two charges brought by Worksafe New Zealand (Worksafe) pursuant to the provisions of the Health and Safety In Employment (Pressure Equipment, Cranes and Passenger Ropeways) Regulations 1999 (the Regulations) and the Health and Safety in Employment Act 1992 (the Act). The charges are that PSL:

- *Between 30 August 2006 and 31 October 2006 at Turoa, Tongariro National Park, being the designer of pressure equipment, failed to take all practicable steps to design the equipment in accordance with standards of generally accepted design practice so that it was safe when operated for its intended purpose* (CRN ending 0041);

- *Between 30 August 2006 and 31 October 2006 at Turoa, Tongariro National Park, being the designer of pressure equipment manufacturer, failed to take all practicable steps to ensure that the equipment was manufactured in accordance with a verified design* (CRN ending 0047).

[2] PSL has pleaded guilty to both charges. No suggestion has been advanced that a discharge without conviction is appropriate and it is hereby convicted.

[3] PSL is in the business of tank manufacturing. The essence of the charges is that it failed to adequately design and manufacture an item of pressure equipment subject to the Regulations and Act, namely a diesel fuel storage tank and pumping system installed by it at Turoa ski field on Mount Ruapehu in 2006. The system was designed, manufactured, supplied and installed by the Defendant for Ruapehu Alpine Lifts Limited (Ruapehu) which operates the ski field. The Defendant undertook maintenance of the system up till April 2008 at which time Ruapehu took over that work. PSL had no part in management or maintenance of the system thereafter.

[4] In September 2013 there was a failure in the system which led to a pump continuing to operate after completion of fuel delivery. Pressure built up which led to a flexible hose coming off between the pump and the fixed pipe reticulation system. Consequently some 19,000 litres of diesel was discharged into the environment of Mount Ruapehu with catastrophic consequences and I will return to more detail of that issue in due course.

[5] The diesel spill and its causes were investigated by Worksafe. As a result of those investigations, Worksafe contends that PSL had failed to comply with a number of standards of practice applicable to the system at the time of its installation in 2006. Worksafe contends that PSL breached its obligations under the Regulations because:

- No hazard or operability study had been undertaken by it;

- No pressure relief valves had been installed between the booster pump and the downstream solenoid valves. Worksafe contended that this would have prevented the spill;

- Non-industry approved hose clamps had been used to connect the flexible pipes to the system;

- The use of flexible pipes or hoses between the pump and fixed reticulation system was contrary to generally accepted design practice.

The contended failures in respect of pressure relief valves, hose clamps and the use of flexible hoses were a matter of dispute between PSL and Worksafe and again I will return to those matters in due course. Before doing so I briefly describe the nature of the charges against the Defendant and the purpose of the legislation under which those charges were brought.

[6] PSL is charged with breaches of Regulations 18(a), 20(1) and 39 of the Regulations:

- Regulation 18(a) requires (in summary) that every designer of equipment must design that equipment in such a way that it is safe when operated for its intended purpose in accordance with standards of generally accepted design practice. I understood the parties to agree that compliance with generally accepted design practice will be determined by references to any applicable Standards and Codes of Practice;

- Regulation 20(1) requires that a supplier of equipment must take all practical steps to ensure that it complies with Regulation 19 which in turn requires ensuring that the designer complied with Regulation 18 previously referred to.

- Regulation 39 makes breaches of the preceding Regulations breaches of s 50 of the Act.

There is no dispute in these proceedings that PSL was both a designer and supplier of the system which failed on Mount Ruapehu, nor that it breached the Regulations. It has pleaded guilty to the charges and has thereby conceded the essential elements of the offences.

[7] The matter which I must determine today is the appropriate penalties to apply to this offending and whether the breaches went as far as Worksafe contends. In undertaking that determination I have had regard to the provisions of the Act under which the Regulations have been made. The Act was brought down to reform the law relating to the health and safety of employees and other people at work or affected by the work of other people. Section 5 of the Act states that its object is to promote the prevention of harm to all persons at work and other persons in or in the vicinity of a place of work by (among other things) setting requirements that relate to taking all practicable steps to ensure health and safety. I have cited these provisions because it is apparent from considering them that the purpose and objectives of the Act are limited to matters of workplace safety and those matters which effect employees and other persons in the vicinity of places of work.

[8] In sentencing the ski field operator for its part in this offending, I placed considerable emphasis on the damage which the diesel discharges or diesel discharge caused to the waters of the Makotuku Stream which diesel from the tank entered, the birds and fish which inhabited the stream and the cultural relationship of Ngati Rangi and Uenuku iwi to Mount Ruapehu and its waterways. Those matters were prominent among the considerations which led me to impose a fine of $240,000 on Ruapehu under the Resource Management Act 1991 which required me to address those matters. However, I do not consider that those matters are relevant to my considerations under the Health and Safety in Employment Act which is directed at the much more limited purposes and objectives which I have identified.

[9] The matters which I must take into account in this instance are harm or hazard to employees of the ski field company, visitors to the ski field and people in the vicinity. I note that the definition of hazard in the Act includes actual or potential hazard. I consider that the harm which is relevant to my considerations, extends to actual or potential physical harm occasioned to the inhabitants of Raetihi whose

drinking water supply was contaminated by the discharge of diesel. Although Raetihi itself is some distance away from Mount Ruapehu, its water supply is situated in close proximity to the diesel system so that in my view the people who rely on that water supply could foreseeably be harmed by a discharge of diesel and might accordingly be regarded as being in the vicinity for the purposes of the Act.

[10] However, I do not consider that the economic and amenity effects of this offending on the people of Raetihi are matters which I can take into account in determining penalty on this defendant. Application of the wider provisions of the Sentencing Act must be considered in the context of and having regard to the provisions of the Act under which the offending occurred. Again I record that some considerable weight was attached to those factors in sentencing the ski field operator under the Resource Management Act (that is the factors of economic and amenity effects I have referred to).

[11] Section 51A of the Act sets out a series of provisions of the Sentencing Act 2002 to which I have must regard in undertaking this sentencing and I now address those matters.

[12] The first relevant considerations are contained in ss 7 to 10 Sentencing Act, which among other things set out a series of purposes, principles and factors which a sentencing Judge must take into account. In this case the most relevant of these arises under s 8(a) Sentencing Act which requires me to take into account the gravity of the offending in the particular case, including the degree of culpability of the Defendant. It is in that context that I address and consider the issues which were the subject of a disputed facts hearing in this Court yesterday relating to the alleged failures of PSL in respect of pressure relief valves, hose clamps and the use of flexible hoses in connection with the stationary container system. The parties agreed that the Prosecutor's allegations as to inadequacies on the part of the Defendant in relation to these matters, constitute aggravating facts which if proven by the Prosecutor beyond reasonable doubt might justify a greater penalty than would otherwise be the case.

[13] I heard evidence on these topics from:

- Mr A J Snyman, a chartered professional engineer (for Worksafe);
- Mr D Kraakman, a director of the Defendant company (for PSL);
- Mr J S Downey, a hazardous substances consultant (also for PSL).

I do not propose to summarise their evidence in these sentencing notes but will (where relevant) make findings on that evidence.

[14] The evidence established that in May 2006 PSL installed a stationary container system compromising a 40,000 litre diesel tank together with a fuel delivery system for the ski field operator. The system was a gravity system where flow from the storage tank to the dispensing points was achieved by placing the tank on higher ground above those dispensing points.

[15] The system did not perform satisfactorily and in late 2006 it was modified by PSL adding a booster pump to push diesel through the delivery lines. This changed the system to a pressure system. The booster pump was connected to the diesel tank by a flexible hose and the pump outlet was connected to two flexible hoses by means of a T piece adapter. The two flexible outlet hoses were in turn each connected to a solenoid valve serving the two delivery lines leading to the fuel dispensers.

[16] On the evening of 26 September 2013 diesel was pumped from the diesel tank to the ski field chairlift. When delivery stopped the solenoid valves closed thereby blocking the flow of diesel to the fuel dispenser pipe line but the pump continued to work due to a faulty relay signal in the electrical installation box. Pressure and temperature built up in the portion of flexible line between the T piece adapter and the solenoid valves and the weakest link in the system, a pipe clamp, failed. One of the flexible pipes broke away from its connection and the diesel was pumped onto the ground until the fuel tank was emptied.

[17] In the first instance Worksafe contended through Mr Snyman that this failure would have been avoided had there been a pressure relief valve between the booster pump and the solenoid valves fitted onto the T joint prior to the two flexible hose connections. Mr Kraakman and Mr Downey both contended that it was not the practice in New Zealand at that time to provide such pressure relief valves for petroleum delivery systems when the pump itself was fitted with an internal bypass, as the pump was in this case. Mr Downey said that he had been involved in over 1000 of such systems and had never seen a bypass system of the type described by Mr Snyman when there was an internal bypass in the pump itself. Both witnesses (Messrs Kraakman and Downey) were of the view that an additional pressure relief valve of the type suggested by Mr Snyman would have provided no more protection than was provided by the pump's internal pipes.

[18] I am unable to resolve the differences of view in this matter expressed by Messrs Snyman and Downey in particular. I accept that the addition of a further relief valve between the pump and the solenoid valves as suggested by Mr Snyman would probably have made the system safer by providing a level of protection to that part of the system which failed, which the internal bypass within the pump did not provide. However what I am not satisfied of beyond reasonable doubt, is that the system was not safe when operated for its intended purpose, just relying on the internal bypass in the pump, as I accept was the common practice at that time. For that reason I am unable to make any further finding in respect of that matter.

[19] That brings me to the issues of the use of flexible hoses to connect the system from the pump to the solenoid valves and the use of clamps to connect the hoses to the system. I will deal with these two matters together.

[20] The evidence which I heard established that the flexible pipes used to connect the pump outlet to the solenoid valves were Goodyear Flexi Wing suction and delivery hoses. They were attached to the pump T joint and the solenoid valve connection points by what is known as Norma clamps.

[21] I accept the evidence of Mr Snyman that neither the hoses nor the clamps were appropriate for use in this situation. It is apparent that the hoses are vulnerable

to deterioration and that the clamps do not comply with the requirements of AS1940 - 2004 which requires joints used in the handling of flammable and combustible liquids to be threaded or flanged joints.

[22] I accept Mr Snyman's evidence that clause 5.2.4 of AS1940 - 2004 precludes the use of flexible hoses for the handling of flammable or combustible materials except at transfer points (which I understand to be the fuel dispensers).

[23] I accept that the pipe delivery system was pressure piping subject to the various requirements contained in AS4041 - 2006 together with the American Standard B31.1.

[24] I accept that the use of flexible hoses in the system did not meet the requirements of the Standards identified by Mr Snyman and accordingly the system was not designed in accordance with the standards of generally accepted design practice even in 2006.

[25] I understood PSL to accept that it had breached the Regulations but that it did so in ignorance, not realising their applicability at the time. I accept that it did not set out to breach these requirements deliberately. However that is no defence. PSL is in the business of building these systems and is obliged to be aware of and comply with its statutory and regulatory obligations.

[26] I did not understand there to be any serious dispute with Mr Snyman's view that rigid metal piping should have been used for the connection between the T joint and the solenoid valves. Mr Downey described the hoses used by PSL as *sub-optimal*. He acknowledged that hard piping was commonly used in this situation, even in 2006, subject to a requirement that connection of the rigid piping to the system should be by way of flexible metal hose to negate the effects of vibration. He agreed that could have been done in this case. Mr Kraakman acknowledged that...*PSL could have done better with the hoses fitted.*

[27] Ultimately I am satisfied beyond reasonable doubt that PSL's use of Flexi Wing hose and Norma clips failed to meet the requirements of Regulations 18(a) and 20(1) and that its failures in this regard are aggravating features in the overall context of this offending.

[28] In light of those findings I return to the issue of the gravity of the offending and the culpability of PSL for it. I note my earlier comments as to the matters which are relevant for consideration under the legislation with which we are concerned in this sentencing. I consider that the need to design and supply equipment for the storage of diesel in a safe manner is self-evident. In this case the diesel tank was situated in close proximity to the ski field plaza building, the ski field workshop and a water catchment and natural drainage system which enters the Makotuku Stream which among other things is the source of drinking water for Raetihi.

[29] In this instance Worksafe has acknowledged that diesel is classified as a low hazard category flammable liquid in Schedule 2 of the Hazardous Substances (Classification) Regulations 2001 so that any fire hazard might accordingly be regarded as correspondingly low. There is no evidence of anyone actually being exposed to fire hazard. It was a potential hazard which did not eventuate in this case.

[30] Clearly the effects of diesel entering water in the Makotuku Stream and affecting downstream drinking supplies, were significant hazardous events and must be assessed as such in determining the gravity of the offending. The diesel tank was situated in a mountain environment where the possibility of any spill entering water systems on the mountain was foreseeable and this adds a significant element of seriousness to the offending. However, that element of seriousness must be tempered with considerations as to this defendant's culpability for what happened in September 2013.

[31] Firstly and somewhat ironically in light of my findings as to the inadequacy of the clamps used in this case, is that it seems highly likely that the clamp which failed giving rise to the diesel spill was put onto the system by someone other than PSL after Ruapehu terminated PSL's contract for maintenance of the system in 2008. The clamp in question was too large and had been over tightened. There was no challenge to Mr Kraakman's evidence that PSL had not put this particular clamp on the system and Mr Downey speculated as to how it might have been used after PSL ceased maintenance. Mr Snyman acknowledged the likelihood of that occurring. I have no reason to doubt Mr Kraakman's evidence and find that there is a real likelihood that someone other than PSL put the failed clamp in place. I record that this likelihood does not fully exculpate PSL's failure to use the correct clamps in the first place, particularly in light of Mr Kraakman's acknowledgement that PSL should have fitted hoses which could not be interfered with by the site operator.

[32] The second significant factor going to culpability relates to the failure of the ski field operator to take prompt steps to remedy the effects of the discharge. Ruapehu did nothing about the discharge for a period of five days after the initial spill from the tank. I understand it to be agreed that prompt remedial action could have prevented the contamination of the Raetihi water supply by diesel. Again this factor can only be taken so far. PSL's design failure created the situation where it was possible for a discharge from the container system to occur. In short it delivered a system which was vulnerable to failure but the effects of PSL's failure were made considerably worse by Ruapehu's subsequent failures.

[33] Even acknowledging the reservations I have expressed, I consider that these two factors diminish the culpability of PSL as compared to Ruapehu, particularly when they are combined with the fact that Ruapehu had been responsible for maintenance of the system for five years before the discharge occurred.

[34] Returning to the requirements of s 51A of the Act, the next matter which I am obliged to consider is the Defendant's financial capacity. I understand that it is not insured for any fine which might be imposed but would be in a position to pay a fine.

[35] I have considered the degree of harm done by this offending in my earlier comments. In summary there was potential fire hazard to workers at and visitors to the ski field at a low level. There was actual hazard and harm to persons drinking the contaminated water.

[36] Nothing in the material put before me suggests that the Defendant previously had anything other than a good safety record.

[37] I note that the Defendant belatedly pleaded guilty to the two charges now before the Court. Mr Neutze contends that the delay in entering guilty pleas arose because of the multiplicity of charges originally laid against PSL, most of which have now been withdrawn. He contends that PSL ought to receive a 20 percent discount from penalty starting point to reflect that delay and I will return to that issue in due course.

[38] I accept that PSL has shown real and tangible remorse for its offending in the harm done by it. Mr Kraakman participated in a restorative justice process and I have had regard to the report from the restorative justice conference in that regard. I note the positive outcomes of that conference and the acceptance by the participants of the remorse expressed to them. I am uncertain as to how I can give effect to the financial suggestions arising from that process, particularly in light of the limited scope of these remaining charges which I am sentencing. PSL has offered the sum of $20,000 towards Worksafe's prosecution costs, again a significant indicator of its remorse. Additionally it has pledged the sum of $5000 to Ngati Rangi to be appropriately used by that iwi, possibly by way of scholarship. Details of that have yet to be discussed with Ngati Rangi. I accept that this is a payment which will be made as does Worksafe.

[39] The next factor I must consider under s 51A is the Defendant's co-operation with Worksafe. In this case Mr Kraakman submitted to an interview by Worksafe staff. Otherwise I assume that the relationship has been undertaken on a somewhat adversarial basis. However, that was PSL's right and led to reduction in the number of charges against it.

[40] Finally under s 51A I note Mr Neutze's advice as to changes undertaken by PSL in relation to its design documents (in discussion with Worksafe) and other consultants. It has reviewed and changed its manufacturing, testing and maintenance processes.

[41] In fixing starting point for penalty considerations I note that the maximum penalty for this offending is $250,000 on each charge. I record that I propose to adopt a global approach to fixing starting point for penalty in this case. The two offences with which PSL is charged clearly arise out of the one set of design failures so it is appropriate to fix one penalty starting point. Worksafe submits that the Regulation 18 charge is the lead charge of the two and I will reflect that in final penalty outcome.

[42] I have had regard to the bands of penalty identified in the *Hanham* case. I determine that PSL's culpability in this case falls within the medium culpability band even allowing for the exculpatory factors I have identified. I consider that those exculpatory factors put its culpability towards the lower end of the medium culpability band.

[43] I have considered the various comparative cases to which counsel have referred and find them to be of limited assistance in determining penalty starting point in this case. *Icepak Coolstores* was clearly much more serious in this case in terms of both level of culpability and level of harm. I consider *Street Smart* to be considerably more serious than this. The *Industrial Machinery* and *Mann* cases cited by Mr Neutze, both predate the 2003 penalty uplifts and in any event are now so dated that they provide little practical guidance for a starting point in this case.

[44] I determine that a starting point of $60,000 is appropriate in these proceedings. It places the offending towards the lower end of the medium culpability band identified in *Hanham*. Allowing for some inflationary elements since the *Hanham* case, I consider that it adequately reflects the seriousness of the consequences of this offending where people were exposed to harm by pollution of their drinking water while acknowledging that PSL's culpability for that ultimate outcome was less than that of Ruapehu.

[45] I consider that PSL is entitled to a reduction from the starting point of five percent on account of its past good character. I am going to allow a substantial reduction from that point to reflect remorse shown by PSL, including its genuine participation in the restorative justice programme, its apology to the community and its agreement to pay $20,000 to Worksafe on account of costs.

[46] I determine that the appropriate reduction for those factors is 20 percent from the reduced starting point. I will then make a further reduction of $5000 from that point to reflect the monies to be paid to Ngati Rangi for scholarship purposes.

[47] Finally I consider the appropriate reduction from that point on account of the belated guilty pleas entered by PSL. I accept Mr Neutze's explanation that the delay in entering guilty pleas was primarily due to the large number of charges initially laid, the majority of which have now been withdrawn. However, the Defendant has had the benefit of the delays brought about by that process through withdrawal of the charges. In this case the guilty pleas were entered after the matter had been set down for hearing and shortly before trial. Under those circumstances I consider that the 15 percent reduction suggested by Mr Brookie is generous but I will adopt that figure.

[48] Those calculations bring me to an end point for penalty of $34,500. I consider that amount reflects an appropriate level of penalty for this offending and I will not make any further adjustment for totality.

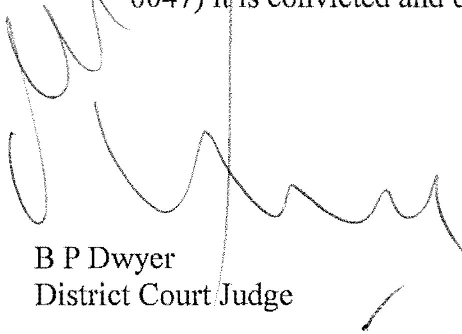
[49] Accordingly I determine as follows:

- On the charge of breach of Regulation 18(a) (charging document ending 0041) Petroleum Services (2001) Limited is fined the sum of $34,500;

- Pursuant to s4 Costs in Criminal Cases Act 1967 it will pay $20,000 towards Worksafe's costs of prosecution;

- It will pay Court costs $130;

- On the charge of breach of Regulation 20(1) (charging document ending 0047) it is convicted and discharged subject to payment of Court costs $130.



B P Dwyer
District Court Judge