



Risk Perception and Remuneration for New Zealand Asbestos Removal Workers

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Abstract

Asbestos exposure is a well-established hazard. In countries like New Zealand, where asbestos has been officially banned, there still exists large volumes of legacy asbestos in various buildings and structures. Asbestos removal workers are at the frontline in removing and safely disposing of asbestos containing materials. In our study, a cohort of 42 participants from four asbestos removal companies were interviewed about the process and their work experiences in depth. Interviews were transcribed and analysed using thematic analysis. An unanticipated and persistent theme that emerged was the role of remuneration. A second and related theme in the analysis identified payment of allowances as a job retention strategy. In this paper we examine whether asbestos removal workers do, or should, receive additional remuneration based on the risk associated with their work. The forms of remuneration provided by asbestos removal companies are considered, and whether these might, or should, be interpreted as 'danger pay'. We note at the outset that 'danger pay', in the traditional sense, does not reflect the modern approach to occupational health and safety (OHS) practice, however this term was used frequently by the asbestos removal workers interviewed. There appears to be a potential disconnect between the duties of employers as defined in contemporary OHS legislation (Health and Safety at Work Act 2015), and the understanding of these duties among workers. This paper provides a foundation for further research to explore how asbestos removal companies in New Zealand manage the asbestos risks in their workplaces.

Key words: asbestos removal workers; asbestos exposure; asbestos-related diseases; danger pay; hazard pay; risk; remuneration.

1. Introduction

In New Zealand, asbestos was widely used as construction and insulation material in buildings until the late 1980's and is likely to be found in buildings constructed before the 1st January 2000 (Worksafe New Zealand, 2016). The increase in the local manufacturing of asbestos products during the 20th century was accompanied by a significant increase in their use, with the largest amount of recorded asbestos consumed in 1975 at approximately 12,500 tonnes (Kazan-Allen, 2011; Worksafe New Zealand, 2016). The asbestos remaining in buildings is historic as the New Zealand Government banned the importation of asbestos-containing products into New Zealand on 1 October 2016 (Ministry for the Environment, 2016). Prior to this ban, New Zealand had banned the importation of blue and brown asbestos in its raw form in 1984 (Worksafe New Zealand, 2016). Despite the ban on the use of asbestos, asbestos removal firms are still faced with the responsibility of the management and removal of asbestos-contaminated materials (ACM's) that remain in situ in both residential and public buildings. This is by no means an easy task as asbestos has been used in over 3,000 products (Frank & Joshi, 2014). A further complication with the presence of legacy ACM's is the challenge of removal and clean up following a natural disaster. The earthquakes of 2010 and 2011 in Christchurch required the demolition of over 10,000 buildings and an estimated 43,000 homes due for repairs with potential asbestos problems (Earthquake Commission, 2013; Royal Society of New Zealand, 2015). As such, asbestos removal workers are at the forefront of eliminating this cancer-causing material, ensuring it is safely removed and disposed whether in a regular workplace or as part of community disaster recovery.

However, the removal and disposal of asbestos comes with risks. A number of occupational epidemiology studies and supporting animal studies show that inhalation of asbestos fibres creates

the greatest risk of asbestos-related diseases (World Health Organization, 2021), including asbestosis, mesothelioma, and cancer of the lungs, larynx, and ovaries (Frank & Joshi, 2014; Howel et al., 1997; Voelker, 2017). The associations between asbestos exposure and mesothelioma and lung cancer have been well proven in numerous epidemiological investigations (Albin et al., 1999; IARC, 2012; Migliore et al., 2022; Sanden et al., 1992; Savastano et al., 2004). A NZ Ministry of Business, Innovation & Employment report, with a primary focus on asbestos removal, implies that asbestos removal workers represent the group most at risk of asbestos disease in the decades ahead (MBIE, 2012).

Given this background, one of the emerging concerns in our current study of the asbestos removal industry in New Zealand concerns worker remuneration, or more specifically, the suggestion that 'danger pay' should be available given the risk of asbestos exposure. For clarity, it is important to begin by defining 'risk' remuneration in terms commonly used, including danger pay, hardship allowance, and competence premium. Danger pay (sometimes referred to as hazard pay) is defined as an additional payment framed as compensation for risk of harm from asbestos exposure (Uthlaut et al., 2022). In contrast, hardship allowance refers to supplementary payment for unpleasant conditions rather than unmanaged exposure to asbestos (ESCWA, 2022). In the case of asbestos removal, unpleasant conditions include such aspects such as the burden of personal protective clothing and equipment (PPC&E), thermal stress, travel, or time spent in enclosures. The competency premium denotes additional payment recognising training/ licensing, supervision responsibility, and experience (Monica & Sarvamangala, 2022).

The concept of linking pay with risk is not new—its history can be traced back to the First and Second World Wars where it was used in many jurisdictions to pay soldiers fighting on the battle front. In the United States, combat pay was first awarded as badge pay to infantry soldiers in 1944 during the Second World War. This was to recognise the hazards and hardships faced by these frontline soldiers (Asch et al., 2019). This payment was abolished in 1949 and replaced by another form of combat pay introduced in 1952 which recognised the actual risk experienced by frontline troops such as hostile fire. Given New Zealand's long history with asbestos, it is unsurprising that workers recognise removal work as involving a high level of risk. However, modern health and safety legislation and practices require employers to manage hazards in the workplace so that risk is adequately controlled. Therefore, there appears to be a disconnect between modern OHS principles and practices and a potentially outdated desire for danger pay, as understood by workers. This is something we explore further in this paper by posing the overarching question: How do asbestos removal workers and managers in New Zealand understand the relationship between asbestos risk and remuneration?

2. Methodology

We are currently conducting a qualitative exploratory study on how asbestos removal managers and workers conduct their roles in managing the health and safety risks of asbestos in New Zealand workplaces. We aim to identify the factors that hinder or facilitate asbestos removal workers in performing their operational duties. The study includes case studies of four licensed asbestos removal firms registered with WorkSafe New Zealand, and a series of semi-structured interviews with workers involved in the industry. The study was granted ethics approval by Curtin University's Human Research Ethics Committee (HRE2023-0702).

Recruitment of the participants at each case study organisation was organised by the Health and Safety (H&S) Manager. The H&S Managers were asked to choose asbestos removal workers they regarded as being able to participate in the interview and were happy to participate voluntarily. All invited participants were willing to participate as they were assured of confidentiality in the research report. The 42 participants from the case study companies were classified as either a senior manager (SM), project manager (PM), H&S manager (HSM), asbestos removal supervisor (RS), or asbestos removal worker (RW). All participants were male, with an age range from 24 years to over 60 years. In-depth interviews were conducted ranging from 30 minutes to one hour. Based on the pilot study this was considered sufficient time for participants to share their knowledge and experience working in the asbestos removal industry.

The interview questions asked participants for their demographic information followed by semi-structured questions for information about hours of work, job role, safe work practices, training, and factors both facilitating and hindering their role. Interviews were audio-recorded and transcribed verbatim immediately after each interview, with transcriptions returned to all participants for accuracy checking. Birt et al. (2016) argue that participant checking helps to maintain the data's accuracy and validity and aids in reflecting participants' experience. Data collection continued until saturation was

reached, defined as the point at which participant responses became repetitive, such that any further data collection would yield no additional information (Glaser & Strauss, 2017).

The interview data was entered into the NVivo software program and analysed using the thematic analysis method. Braun and Clarke (2006) describe thematic analysis as a technique for identifying, analysing, and reporting thematic patterns within data by simple organisation and describing the dataset in a detailed manner. The phrases within the interview transcripts were assigned codes and sub-codes by the researcher and then patterns and themes in the content were identified. The advantage of researcher coded data is that it allows the researcher to become more engaged with the content during analysis (Sotiriadou et al., 2014). The interview data of the asbestos removal workers in relation to each of the key themes was tabulated alongside relevant data from the interviews held with their respective managers for comparison purpose. This type of triangulation across roles was used to gain multiple perspectives and more importantly the validation of the data (Carter et al., 2014).

An early theme from the initial analysis of the study's interview data was the desire for additional remuneration for asbestos removal, with some participants specifically using the term 'danger pay'. Interviews also revealed that some employers are paying workers who remove asbestos higher wages than their colleagues doing demolition work. There were 49 study participants and of these seven were part of a pilot interview study and were not selected for the main study of the four asbestos removal companies.

3. Results and Discussion

3.1 Interview research findings

It became clear through the interviews that asbestos workers considered the work they undertook to be dangerous, to the extent that some were concerned they were potentially putting their lives at risk. Selected responses from workers are provided in the following:

"I reckon they need to put up the price of working as an asbestos removalist. This is dangerous. Asbestos is dangerous. We might not see it, but it costs life. We never know if some of us already got asbestos in our system, you know, it's gonna cost us life." (RW1)

'It would be good if the government chips in with a bit of extra money as a danger allowance for people working in dangerous jobs like removing asbestos. They're trying to get rid of the stuff and we are putting our lives on the line because that stuff can kill you.' (RW2)

'We should be paid more money because asbestos is dangerous. We are always operating in the red so you can't afford to make a mistake.' (RS)

Recognising a risk while thinking about money often involves a delicate balancing act between risk and opportunity. On one hand, acknowledging the risk of asbestos exposure is essential to responsible decision-making. On the other hand, the lure of financial gain can tempt workers to think purely in terms of money and overlook the risk controls. This tension can lead to calculated compromises, where the perceived remuneration justifies the exposure. However, a responsible and positive outcome lies in recognising that short-term gains of additional allowances should not come at the expense of the worker's long-term wellbeing, particularly as asbestos-related diseases such as mesothelioma have a long latency period between exposure and disease, potentially up to 50 years (Jain et al., 2024).

There are specific legislative requirements for the removal and management of asbestos in the workplace in New Zealand. These include the Health and Safety at Work Act (HSWA) 2015, the Health and Safety at Work (Asbestos) Regulations (HSW) 2016, and the Approved Code of Practice (ACOP) for the Management and Removal of Asbestos 2016. These pieces of legislation prescribe the key control measures needed in the workplace to reduce any potential exposure to airborne fibres. Therefore, there are legislated duties requiring decisions for weighing both the risk, and the form of controls to mitigate the risk, that are mandatory under the law.

It was noted during the interviews that some asbestos removal firms are paying an extra allowance to asbestos removal workers, described as an incentive to continue their employment services. Asbestos removal is regarded as high-risk work and many people are unwilling to take up the job, hence a strategy has evolved of incentivising the job by paying an extra allowance. A senior manager from an asbestos removal firm said:

'Obviously, remuneration is a big one for us. We pay a base wage or a salary. And then on top of that, we pay what we call adverse working conditions allowance. So, obviously, incentivising them by paying them really, really well, providing them the top equipment.'
(SM)

To be nominated on a company's removal licence, a Class A removal supervisor must have at least three years of relevant industry experience including a minimum of 600 days in removing friable asbestos. A Class B supervisor must have at least one year of relevant industry experience including a minimum of 200 days in removing non-friable asbestos (Worksafe New Zealand, 2024). While additional allowances represent an upfront cost, it may be cost effective for asbestos removal firms to invest in such allowances to enhance retention, particularly in jobs such as asbestos removal supervisor that require substantial experience and training.

One of the interview responses described the differentiation in workers' pay structure:

'We're obviously an extremely dangerous industry doing demolition and asbestos. Obviously, asbestos is one of the higher risks. If the workers are doing demolition work, they are only paid normal hours. If they're doing asbestos removal, they have extra money on top of their normal pay.' (PM)

Given the high-risk nature of the work, this would suggest that additional remuneration is required to attract and keep workers in the role; however, this could also be said of many 'dirty' or 'unglamorous' jobs. The notion that this constitutes 'danger pay' as requested by some workers is a matter for broader discussion. Moreover, equity theory states that when individuals evaluate the fairness of the reward they receive for their contributions relative to others, perceived inequity can become a motivating mindset (Wood et al., 2010). In these instances, the allowances received in a case of inequity can harm vital work outcomes as workers may quit or reduce their effort to restore the balance they perceive as equity. Nevertheless, the above responses from managers acknowledge the risk posed by asbestos removal and confirm that a mechanism is in place for increased pay for those undertaking the work.

3.2 Justification and impact of risk-based remuneration

While the term 'risk' is broadly used to describe the possibility of encountering danger or suffering harm or loss, it is necessary to interpret what workers regard with the common health and safety use of the term, which includes both the likelihood and the consequences of exposure to a hazard. In the context of asbestos removal, the participating asbestos removal workers perceived themselves as being at risk and likely to suffer harm as they carried out the operational work of removing and disposing of asbestos waste. This showed an understanding of the hazard to which they are exposed, however a lower awareness of the risk-based approach to control. McConnell and Wilkinson (2021) argue that during an epidemic, key workers are subject to unavoidable harms, risks, and burdens in providing essential public good, which warrants hazard payment proportional to the risks and burdens endured. While the same justification could be made for asbestos removal workers who perform a vital service by removing a cancer-causing material and who, while doing so, face unavoidable risks and burdens associated with their work, it is important to take into consideration the effectiveness of controls mitigating the risks of asbestos exposure. However, it is not just the heightened risk of exposure that has motivated the payment of additional allowances.

As has been noted, the interviews revealed that some asbestos removal companies provide additional remuneration to current workers as an incentive to keep them in the job and to aid recruitment. If the global goal of the World Health Organisation (WHO) and the International Labour Organisation (ILO) to eliminate asbestos-related diseases is to be achieved, then there is a need to recruit and retain workers whose task it is to remove ACMs that remain *in situ* in buildings and structures. Asbestos removal work is considered dangerous and thus unattractive - hence there appears to be a need to incentivise the job.

Even though the motivation behind 'danger pay' may be well intentioned, it may have unintended consequences. A key concern is that so-called 'danger pay' could be used as a coercive tool to avoid investing, or justify a lack of investment, in necessary risk controls. This creates pressure on workers to accept inadequate risk controls. While this kind of approach was not identified in any of the case study organisations, it would promote risk-taking and tolerance of unsafe actions instead of investment in resources that improve the safety of the workers. This was a distinction of which some of the interviewed workers were unaware. Hopkins (1995, p. 122) describes this as the "old danger money approach" used in bargaining for safety where from the workers' point of view, the deal is "give

us money and we'll accept the lack of safety". Ruhnke and Detsky (2022) likewise argue that concurrent ethical concerns arise out of such a situation because hazard pay may serve as a coercive incentive to accept excessive risks.

A main constraint experienced by asbestos removal companies is finding people willing to do the job and as such companies are competing against each other in the labour market. In such scenarios, asbestos removal companies that have the financial capacity to pay more in extra allowances tend to control the asbestos removal labour market. This is a big concern, hindering the expansion of some asbestos removal companies. According to a senior manager:

'Yeah, that's one of the major concerns we have as a company. And it comes from being able to try to expand. It's very hard to expand in this industry because the wage that you have to pay the supervisors in extra allowances is so much, and they're not necessarily worth that wage. And then it becomes, it's basically a race to the bottom in terms of price and a race to the top in terms of wages. Having to pay wages for guys that have that qualification experience, but they're just not out there, which is a major problem, huge problem.' (SM)

It may be argued that providing additional allowances can create a system that encourages financially struggling firms to accept or allow less rigorous risk-based controls (Caskey & Ozel, 2016). Quinlan et al. (2010) argue that such incentives once established can become an expected part of the reward system in any industry, which can both restrict their motivating effect and make them difficult to remove. Consultation with asbestos removal workers is essential for continuous improvement in the asbestos removal industry in New Zealand. However, if a formal risk incentive mechanism is implemented, the removal workers may no longer feel motivated to innovate and engage in improvements beyond the prescribed expectations, as they know they are guaranteed additional allowances. The legal imperative of prevention of exposure to hazards, as far as practicable, may be diminished in priority if payment for risk is perceived as an acceptable trade for maximising exposure control.

In a tight labour market, asbestos removal firms also risk losing their workers to competitors offering better remuneration in terms of additional allowances. As a result, companies may be reluctant to adjust or remove the additional allowances, fearing that this could trigger the workers to leave, even if their competency is deemed lower than expected. This reluctance can ultimately hinder ongoing improvements in the asbestos removal industry.

As previously discussed, some employers pay an extra allowance to asbestos removal workers in comparison to their counterparts who do demolition works only. The additional allowance is a financial acknowledgment that asbestos removal work is unpopular work and poses recruitment challenges. In fact, the demographics of the study group showed that the industry plays a valuable social role in employing and training workers with otherwise limited employment prospects. The NZ Health and Safety at Work (Asbestos) Regulations 2016 state that an asbestos demolition survey must be carried out before the demolition of any building built before 1 January 2000. This is a safety mechanism for workers doing demolition work as the asbestos is identified and removed by asbestos removal workers before they carry out the demolition of the building.

3.3 Mitigating risks in asbestos removal

The minimum controls for asbestos removal work are that anyone working in an asbestos removal area must wear Respiratory Protective Equipment (RPE) and then undertake personal decontamination once tasks are completed. The level of respiratory protection and the type of air respirators required depends on the nature of the asbestos removal work and the anticipated concentrations of asbestos fibres (Worksafe New Zealand, 2016). A senior manager emphasised the use of respiratory protection as an additional layer of defence and good work practice to mitigate risks posed by asbestos exposure:

'The risk is always there. You can't remove the asbestos risk until the asbestos is gone. So, the risk of inhaling is going to be there. You can only put barriers in place. So, that's your face fit test with your masks, your decontamination units, your decontamination systems carried out properly, your wrapping of your material or wetting it down, or your controls on how you manage and remove the material. That's the only way to scale down the risk. The risk is always going to be there, but it's how you manage it.' (SM)

While the asbestos hazard remains until removal is complete, the risk of harmful fibre exposure varies by task and is reduced substantially by effective controls (e.g., enclosure/negative pressure where required, wet methods, decontamination, competent supervision, and air monitoring). In a study conducted between 1996 and 2013 on the asbestos abatement sector in Italy, Scarselli et al. (2016) found that the use of advanced respiratory protective equipment (RPE) was effective in reducing asbestos exposure. While the study showed that the use of RPE was effective in reducing asbestos exposure, no predictive estimates could be made regarding what health effects might eventuate from any remaining exposure. Respiratory equipment is regarded as the last line of defence because it can only reduce exposure but not eliminate it. Therefore, it is important that asbestos fibre concentration is reduced to a minimum before using respiratory equipment. Scarselli et al. (2016) maintain that the use of personal protective equipment does not prevent uncontrolled exposure situations if there is no proper adherence to the prevention and protection measures established by law.

Air monitoring is also a critical control method for determining the concentration of airborne asbestos fibres. This process is used to assess if an individual is being exposed to asbestos, and the effectiveness of other control measures. The requirements for air monitoring can vary based on several factors: the type of asbestos being removed, the location and positioning of the asbestos, whether an enclosure is utilised, and whether the asbestos removal work takes place indoors or outdoors (Aryal & Morley, 2024).

Health monitoring is a vital aspect of managing asbestos-related risks as it helps to identify potential health concerns that require the use of preventative measures. The requirements for health monitoring for asbestos workers are set out in section 16 of the ACOP for the Management and Removal of Asbestos (Worksafe New Zealand, 2016). Asbestos removal workers must undergo medical assessments on a regular basis for as long as they are exposed to asbestos. The health monitoring includes a full asbestos medical examination that should be conducted every two years starting from the commencement of work with asbestos, regardless of when the worker began employment with their current company. Scarselli et al. (2016) recommend the development of health surveillance and education programmes in response to the exposure level of asbestos workers when dealing with abatement and the disposal of asbestos-containing materials.

Another critical control measure required in managing asbestos risks is robust supervision and training. A rigorous level of oversight is required to ensure that asbestos removal workers do not develop sub-standard practices or become complacent with any of the procedures in place to ensure that effective work practices such as decontamination are being performed. Asbestos removal workers carrying out licensed asbestos removal at the workplace are required to obtain certification by completing a unit and training standard to show they have the relevant competency to remove asbestos for that particular class of asbestos removal work (Worksafe New Zealand, 2017). Asbestos removal workers are required to be adequately trained to a level commensurate with their anticipated work activities, i.e. decontamination procedures, RPE fit testing and maintenance, suitable working techniques, construction of enclosures and airlocks, and the maintenance of plant and equipment. However, Gardner (2000) points out that a poor level of supervision and training is also a barrier leading to poor risk management during asbestos removal. During the interviews, a Health and Safety Manager from one of the participating asbestos removal firms commented:

As I said initially, we have a very limited number of supervisors because of how WorkSafe logs the days for one to be nominated as a supervisor, so they end up with whoever sticks around long enough gets the job. It doesn't necessarily mean that that supervisor is competent or should be left alone to manage the asbestos removal site. It just means that they stuck it out long enough. So, we have a very low experience level with supervisors of knowing how to spot or manage risks on-site. So, they're just yes, sir, no, sir people, and that's why we end up with problems. (HSM)

While additional pay for asbestos removal workers might encourage workers to feel more positive about doing the work, alone it does not address any gap in risk management. It is notable that, despite a legislative framework being in place, numerous prosecutions have been brought before courts for various offences in failing to manage asbestos-related risks (*Worksafe New Zealand v Bays Boating Limited*, 2020; *Worksafe New Zealand v Robertson*, 2018; *Worksafe New Zealand v Topham Holding Limited*, 2017). Therefore, it might be concluded that simply paying extra money does not necessarily make the work safer.

The requirements for asbestos removal in New Zealand are heavily regulated within an extensive legislative framework designed to safeguard workers, and the public, from inhalation of respirable

asbestos. As such, there is an expectation for asbestos removal companies to implement all the control measures required by law to mitigate the risks of asbestos exposure in the workplace. It can be argued that compensating workers for work in a hazardous environment should not be needed when all the requisite controls are in place to minimise the risks of asbestos exposure. Table 1 summarises some of the key themes derived from the interviews with practical implications and suggested controls in the workplace.

Table 1. Key themes and their implications

Theme	What participants said	Implication for practice	Suggested PCBU controls
'Danger pay' language	'We are putting our lives on the line...'	Risk may be perceived as tradable for money	Reinforce prevention-first duties; explain controls + stop-work rights
Allowance as retention tool	'We pay an adverse working conditions allowance...'	Labour-market pressure may shape safety culture	Make allowance rules transparent; ensure it never substitutes for required risk controls
Supervisor pipeline/competency	'Whoever sticks around gets the job...'	Risk of weak supervision and drift to unsafe practices	Competency verification; mentoring; supervision audits; refresher training

4. Conclusions and Recommendations

Danger pay is a contentious topic and one which may well be better consigned to the past. It is also clear that 'danger pay' in the traditional sense does not align with modern OHS practice and the responsibilities of employers defined in OHS legislation. There is a clear shortfall evident in the perceptions and knowledge of workers of the preventative philosophy and obligations prioritised in modern legislation. This could be addressed with suitable education and training programs at both workplace and societal level.

While this paper has identified arguments for additional remuneration for asbestos removal workers, and acquired evidence of this in practice, the idea that this be viewed as 'danger pay' is both problematic and subject to challenge. Although asbestos removal is clearly a high-risk job, corresponding measures must be taken to 'guarantee' that asbestos risks are controlled at work. Air monitoring, health surveillance, training, and supervision are some of the risk control measures that must be put in place in a workplace to reduce the risk of asbestos exposure. These and additional control techniques are described in detail in the New Zealand Health and Safety at Work (Asbestos) Regulations 2016 and the ACOP for the Management and Removal of Asbestos 2016. These are based on the principle that workers and other persons should be provided with the highest practicable level of protection against work risks that can harm their health, safety, and welfare. However, if the risk of asbestos exposure is not mitigated, then workers have a right enshrined in the New Zealand Health and Safety at Work Act 2015 to refuse to carry out unsafe work.

This paper has explored the different forms of remuneration provided by asbestos removal companies, i.e. risk-related or occupation-related pay. It is recommended that if an employer decides to provide such an allowance, then the basis on which it is given should be clearly defined without undermining its intended use. For example, if danger pay is provided as risk-related pay, then there is a need to have clear policy details on what exactly constitutes the risk circumstances in the work activity, given that the New Zealand legislation on asbestos is designed to mitigate asbestos removal workers' risk of asbestos exposure.

The issues of incentive based remuneration and the retention challenge for employers could also be addressed proactively through strategic promotion. The approach could emphasise an employer's commitment to the current 'NZ Health and Safety at Work Act 2015 and primary duty of care (so far as is reasonably practicable)' in this legislation. It should highlight the multilayered protections for asbestos workers, attention to exposure and health monitoring, the high skills and training available, and the invaluable role asbestos workers have in reducing this threat to the people of New Zealand.

It is also recommended that further research be conducted to determine how asbestos removal companies in New Zealand manage the prevention of asbestos-related diseases in their workplaces.

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