



**SAFETY
PRACTICE**
project

Managing the health and safety of workers in globalised container terminals

A preliminary study of the experience of health and safety arrangements
and outcomes in container terminals operated by
Global Network Terminal Operators



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Research supported by the
International Transport Workers' Federation

FINAL REPORT

David Walters
Emma Wadsworth

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Contact: Prof David Walters
WaltersD@Cardiff.ac.uk
Cardiff Work Environment Research Centre
Cardiff University
59 Park Place, Cardiff, CF10 3AT
Tel. +44 (0)29 2087 0013 Fax. +44 (0)29 2087 4759



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Executive Summary

This report presents the findings of a preliminary study into the arrangements for managing health and safety in container terminals operated by Global Network Terminal (GNT) operators. Its aims were to:

- Identify the nature and extent of policies and arrangements made to manage the health and safety of workers in six ports in which GNTs operate container terminals and the extent to which they exemplify best practice in terms of participative approaches to occupational health and safety (OHS) management
- Examine the effectiveness of these policies and arrangements by analysing objective indicators of performance and the perceptions of stakeholders (such as workers and their representatives, managers, and OHS specialists) concerning proxy indicators of effectiveness
- Discover to what extent the policies and practices adopted by the GNTs in managing OHS in these ports take account of the effects of the restructuring of work and employment

Methods and coverage

The research adopted a multilevel approach to data collection and analysis in which, facilitated by a global network meeting of dockworkers' trades unions affiliated to the International Transport Workers' Federation (ITF), a global scoping study was first carried out of the experiences of unionised dockworkers in relation to container terminals operated by GNTs. Following this, with the help of the Dockers Section of the ITF, six container terminals were identified in which arrangements for health and safety and the experiences of dockworkers could be studied in greater detail.

With the cooperation of three of the world's major Global Network Terminal operators, the study investigated occupational health and safety management policies, practices and outcomes by examining overall company policies and strategies on OHS management in the four companies that owned and operated the terminals. It further gathered evidence of their operation through field visits to each of them and through the collection of documentary

evidence to supplement these. Four of the terminals were located in Europe and two in Asia. Thus the study considered practices in terminals in advanced market economies and in advancing economies and allowed for some comparison between them. In each case, the research sought to identify indicators of good practice in participative OHS management, as well as evidence of performance outcomes.

The research strategy attempted to combine investigation of the perspectives on the management of health and safety obtained from interviews with managers, safety advisers, key operatives and other relevant actors, supported with scrutiny of available company documentation, with analysis of workers' experiences through a parallel set of interviews with operatives arranged through the trades unions present at the various worksites. Throughout the study the researchers also paid particular regard to arrangements for involving workers and their representatives in the planning and operation of OHS management in the ports concerned. The following were compared both between and within the GNTs:

- Workers' perceptions of the risks of work in container terminals and the consequences for their health, safety and well-being
- Experiences of health and safety management systems, policies and practices, their monitoring and adherence to best practice
- Formal and informal arrangements for worker representation and participation in health and safety activity in the above
- Patterns of work organisation and their relationship to OHS management and its outcomes
- Accident rates and other OHS performance outcome measures

It needs to be stressed that this was an *indicative* study. The project's questionnaire sample was too small to allow a claim that the findings from it are fully representative; and the completeness and thoroughness of the qualitative aspects of the project were limited by its time constraints. Nevertheless, at both the global and container terminal levels the research has provided a unique and rich source of data

volunteered by a group of experienced and well-informed participants concerning the ways in which work is organised and undertaken in container terminals located in various parts of the world and its impact upon the health, safety and well-being of the workers involved.

Findings

Our findings cover perceptions of risks to health and safety and how they are managed in the terminals we studied, including arrangements for monitoring and feedback, and those to facilitate worker representation and consultation. We also examined the relationship of these arrangements to the structure and organisation of work and have some further information concerning measures of OHS performance in the terminals studied.

Risks

The experiences of our respondents both at a global level and within the terminals suggested that there was a set of risks from operational activities in container terminals, including those arising from unloading and loading ships and moving containers around the yards in which they are stored before travelling inwards or outwards to their destinations.

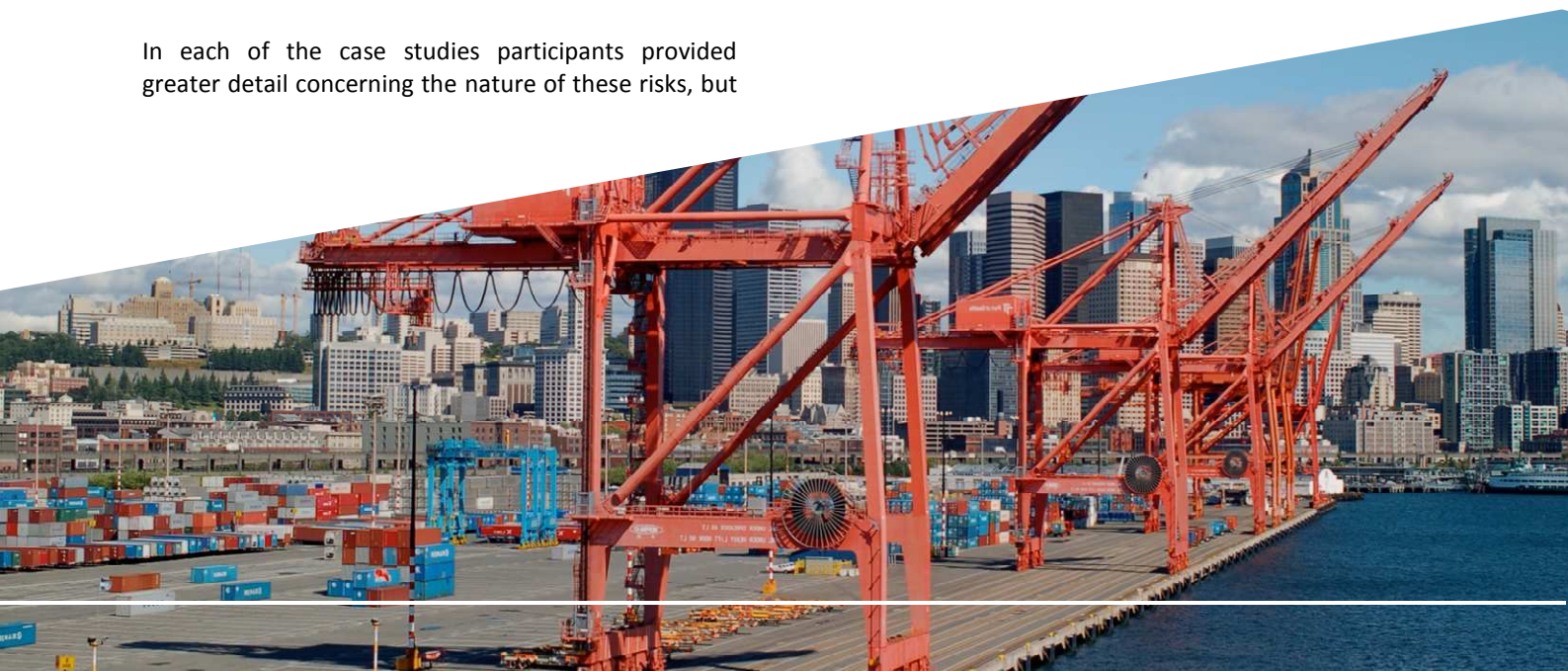
They were essentially the conventional risks to safety from such operations as well as less obvious risks to health from poor ergonomic design and long or intensive shift patterns. Respondents also identified risks to health arising from the physical environment, safety risks associated with poor workplace infrastructure, and risks arising from inadequate information concerning the possible hazardous nature of contents of containers. Perceptions of risks arising as a result of the challenges that outsourcing work activities within terminals presented for effective OHS management were also frequently articulated.

In each of the case studies participants provided greater detail concerning the nature of these risks, but

essentially they were broadly of the same type. That is, they concerned risks associated with the operational activities involved in loading and unloading ships and the storage and transportation of containers. Although the risks of heavy physical work were lessened by the mechanisation of loading and unloading operations, for some workers, such as lashers, they remained significant. There were risks involved in coming into contact with moving machinery and vehicles as well as those associated with falling objects and falls from height. As was the case with the global findings, the increased pace and intensity of work necessitated by the faster turn-around times in container ports was perceived by workers to increase the risks of accidents; something which in some cases they felt was exacerbated by manning levels being adequate only for 'normal' operational conditions and also by pressure to increase or maintain high productivity levels (including through incentivisation). Along with poor ergonomic design and long shifts patterns, this also increased the likelihood of musculoskeletal disorders (MSDs) for operatives.

At the same time, truck-trailer drivers in some ports felt there was a risk of MSD and gastrointestinal problems created by driving for long hours in inadequate vehicles over poor surfaces. Intensification of work was also associated with the risk of fatigue and in some cases also with increased stress. In addition, a general complacency or over-familiarity with the job was perceived by some as increasing the risk of incidents and accidents.

Risks associated with aspects of the physical environment, including chemical hazards, excessive noise and vibration, and poor lighting were also identified. Risks associated with poor workplace infrastructure and those arising from inadequate information about containers' possibly hazardous contents were also articulated. The contractor workforce in the Asian terminals was regarded as more vulnerable to risks to their health and safety.





There were differences of quality and scale in the risks perceived to be significant by participants in terminals in advanced market economies and those in advancing ones. This was apparent on two levels. First, particular risks were more commonly identified by workers in each of the two economy types: for example, risks associated with poor workplace equipment and infrastructure were more commonly identified by workers in advancing economies, while risks associated with complacency were more commonly identified by workers in advanced economies. Second, workers in advancing economies generally experienced risks common to both economic types, such as increased work intensity, at an even greater level than in advanced economies.

Management systems, procedures, policies and practices

Participants indicated that, in their experience, GNT operators had adopted both structures and procedures to manage OHS within the terminals under their control. There was substantial agreement between participants at the global level concerning the broad character of the management systems for health and safety in GNT operated terminals. There appeared to be a broad similarity in approach, best characterised as behaviour-based approaches to achieving OHS performance at the terminals.

Features in common were those that might be anticipated from reports of the operation of such systems elsewhere, including overall responsibility for safety being vested in the terminal's senior management – with accountability to the company globally; a safety department in the terminal, charged with delivering the elements of the system rolled out at global level and subject to their adaptation to suit local conditions; strong emphasis on achieving improved 'safety culture' at the terminals though behavioural change, the latter exemplified by emphasis

on the issue and wearing of PPE, training packages emphasising rules concerning safe working procedures, systems for ensuring compliance through peer monitoring as well as supervision and so on; incident and accident investigation and reporting procedures; further procedures for identifying and communicating safety failures; and documented risk assessments, method statements and standard operating procedures. Findings from all of the case studies broadly confirmed these features to be present within each of the terminals studied. While they all displayed some room for adaptation to local conditions, the overall character of the safety management systems in place seems to have been determined by the companies globally.

The terminals were often located in larger ports. In these situations there was usually a port-wide authority or structure which helped determine the operation of the port overall. In the different locations studied, such institutions had varied influence on arrangements operating within the container terminals. Thus, in one instance the management arrangements were strongly influenced by the structures and procedures required and supported by the port-wide institution, which intervened directly in the support of some aspects of OHS in the terminal in question. In others, such institutions and their procedures existed, but had very little influence on management of health and safety within the terminals, while in yet others, there appeared to be no such port-wide arrangements present and the terminal companies were entirely responsible for making their own arrangements for health and safety management.



At the global level the trade union respondents welcomed the engagement of the GNTs with health and safety management. However, they were also frequently critical of these systems, suggesting they represented superficial and limited ways of tackling the deeper issues of productivity, performance and work organisation, which they believed constituted many of the causes of accidents and ill-health experienced at the terminals. In this respect, they argued that they did little to reduce incentives for workers to take risks in

order to meet productivity expectations, they had no impact on work organisation issues that caused fatigue, stress or musculoskeletal disorders, and they were pernicious in the way they laid blame for safety failings at the feet of workers, who often regarded their employment as precarious and insecure and who believed themselves to be carrying out activities in ways so as not to jeopardise their fragile security. Moreover, respondents pointed out that the directly employed workforce felt the effects (both good and bad) of such systems, but the workers of contractors (who sometimes made up the majority of workers on the terminals) remained largely beyond their influence.

In the case studies of the six terminals, further local differences between approaches to managing health and safety were highlighted and the general concerns expressed by trade union respondents at a global level were also aired by workers and their representatives interviewed in the terminals. Most participants within the terminals were broadly approving of managerial initiatives to improve the 'safety culture' of the terminals' organisation through behavioural change strategies, and of efforts to be more systematic in the approach to improving safety performance with the introduction of safety management systems. At the same time, they identified a sense of the limitations of these approaches, especially in their ability to reach the underlying causes of the work-related health risks identified previously. There was also a clear distinction, particularly in the Asian case studies, between the effects of the approaches to health and safety management as experienced by the directly employed workforce and effects of the same approaches for the contractor workforce.

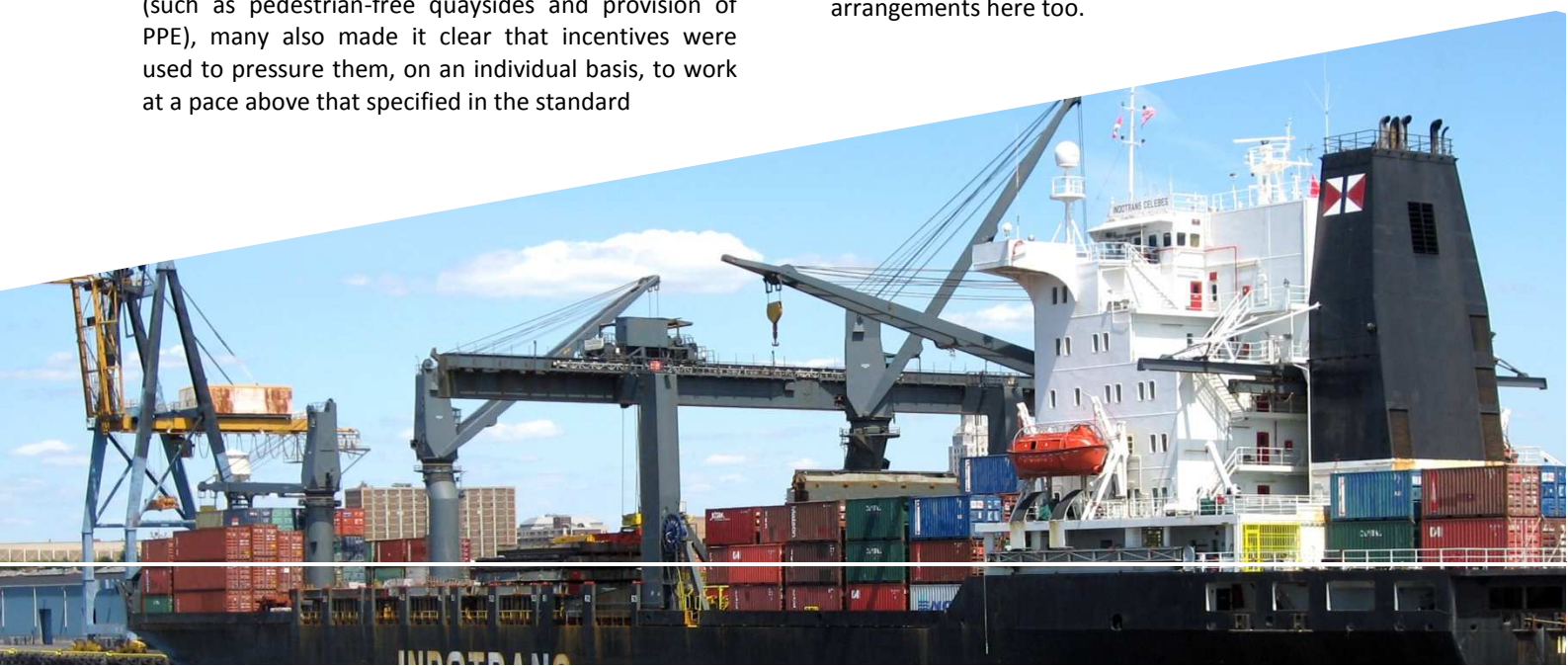
Moreover, the case studies provided further detailed examples of differences between the experiences of workers in terminals in advanced economies and those in advancing ones. For example, although workers in advancing economies acknowledged some significant safety improvements in terminals taken over by GNTs (such as pedestrian-free quaysides and provision of PPE), many also made it clear that incentives were used to pressure them, on an individual basis, to work at a pace above that specified in the standard

operating procedures – not least because without that bonus their take-home pay was extremely low. Where workers in advanced economies were offered such productivity bonuses this was done collectively and in addition to an already reasonable basic pay level.

Accident and incident reporting systems, systems for monitoring risks and feedback loops

Respondents' experiences of the effectiveness of feedback and dissemination arrangements in systematic approaches to health and safety management were a further area of our inquiry, both at the global and terminal level. We focused on two aspects, reporting arrangements for accidents and incidents and risk assessment, monitoring and feedback. The detailed account of our findings indicates that as far as accident and incident reporting were concerned, respondents were aware of the existence of such mechanisms in most terminals, but often found them limited in their effectiveness.

Various reasons were offered to explain the under-reporting that many respondents believed to be endemic in the container terminals and they again drew attention to the gap between the effectiveness of arrangements that applied to the directly employed workforce and those for contractors and their workers in some cases. It was also suggested that in terms of feedback concerning such intelligence, trade union representatives were sometimes denied access to such material. Again, and in all respects, there were differences in the experiences of respondents in terminals located in advanced and advancing countries. As perhaps might be anticipated, better developed arrangements were present in the terminals in advanced countries – however, since the expectation of consultation on the data thus generated was also greater for trade union representatives in respect of these terminals, there was nevertheless often significant dissatisfaction with the operation of such arrangements here too.



Formal and informal arrangements for worker representation and participation on health and safety

The main reason for our interest in the arrangements for worker representation and consultation within the OHS management systems in container terminals was the overwhelming research evidence from other industries which suggests that where arrangements for representation and consultation on health and safety are in place, performance outcomes as measured by both direct and proxy indicators are better than when health and safety is managed in the absence of such arrangements (Walters and Nichols 2007).

Representation

Arrangements for representation and consultation are mixed and are significantly less well developed in advancing economies

However, the picture of representation and consultation on health and safety that emerged as a result of both the indicative survey of trade union representatives globally and our case studies within the terminals, was mixed. There were once again strong differences between practices in terminals in advanced countries and those in advancing ones, as well as differences between arrangements covering the directly employed workforce and those of contractors' workers.

Many of these differences could be partly explained by the extent to which labour relations' procedures were embedded in the terminals, the relative strength of the position of labour in this respect and the national regulatory context in which they operated. They were also influenced by the attitudes of the global management of the GNTs towards the nature and form of consultation with workers' representatives that it considered appropriate. In terminals in advancing countries there was little evidence of the presence of arrangements commonly associated with international standards on consultation and representation on health and safety; while arrangements in terminals in advanced countries appeared more developed, but even here they were at times somewhere short of the relevant national provisions.

Broadly, in terms of specific practices, a critical difference between arrangements in the terminals in advanced countries and those in advancing countries

could be found in their depth and formality, which strongly affected both their functions and sustainability. One example will have to suffice to illustrate this here, but there are many others within our report. In the case of joint health and safety committees, for instance, while in all the companies there were arrangements in place so that workers could be represented, in terminals in advanced economies this representation was achieved through provision for the regular attendance of the same workers' representatives, who were continuous members of the committee and often of longstanding and who were therefore able to engage effectively with both the short- and the long-term business of the committee in ways widely recommended in regulatory guidance on the functioning of such committees. They were also commonly well-trained and experienced representatives. In contrast, in the terminals in the advancing economy we studied, we found that while there was a general allowance for workers' representation on the committee, because of shift patterns etc., and the limited availability of facilities for representatives (including their training), in reality such representation was not consistent and did not allow sustained engagement with any issues with the potential for consultation raised at the committee. Similar patterns were evident in relation to the practice of most of the activities recommended in national and international regulation and guidance on the functions of worker health and safety representatives, such as investigations, inspections, involvement in risk assessments, consultation on health and safety, implications of technological or organisational changes at work and so on.

This is not to imply that worker representatives from terminals in advanced countries were entirely happy with the arrangements in place for consultation and representation. They too had concerns about the quality of the provision made for consultation, and in different terminals there were particular concerns, for example, over occupational health issues, over access to information on accidents, incidents and near misses, over consultation on OHS in relation to new management practices concerning changed work organisation and over involvement in specific safety practices such as risk assessments, toolbox talks and so on.

Patterns of work organisation and their relationship to OHS management and its outcomes

Given that in each of the above areas participants from both the global level and the case study terminals pointed to issues implicit in the structure and organisation of work which fell outside the

arrangements to manage or be consulted on OHS, or were impervious to them, our inquiry into the trade union representatives' experience of OHS management also specifically addressed the question of work organisation and outsourcing. Here, as well as the points already made in this respect, we also found there were concerns with the intensification of work in the container terminals, which in the eyes of many respondents was creating increasingly unsafe and unhealthy elements to the work environment that were generally not addressed by the safety management systems in place in the terminals.

Outsourcing

Management strategies for influencing health and safety practices among suppliers of outsourced labour are rare

At the same time, it was also noted that, in relation to outsourcing and contracting out especially, the same structural and organisational elements not only made OHS management more challenging, they also made regulatory enforcement more difficult. And in each of these cases, the experience was different and arguably more extreme in the terminals in the advancing economy in comparison with that in the advanced ones, where the influence of both regulatory style and organised labour have perhaps served to moderate the extent of both outsourcing and possibly also work intensification. This was apparent, for example, when comparing a terminal in an advanced economy where an agreement had been reached such that numbers of contract workers could not grow disproportionately with numbers of directly employed workers, with terminals in the advancing economy where contractors made up increasingly large proportions of the workforce and, in one case, were the majority.

Generally the challenges of contractorisation were not dissimilar to those encountered by outsourcing in other industrial sectors, with downward pressures of price and delivery demands as well as fragmented arrangements for OHS management experienced in multi-employer worksites militating against the

effective operation of OHS arrangements. However, terminal management, both globally and locally, are in a powerful position at the head of supply chains to exercise leverage for, and monitor, good health and safety practices among their suppliers/contractors. We strongly recommend that they are encouraged to use this position of influence to put in place strategies to address these problems - following the examples of a number of other sectors in this regard.

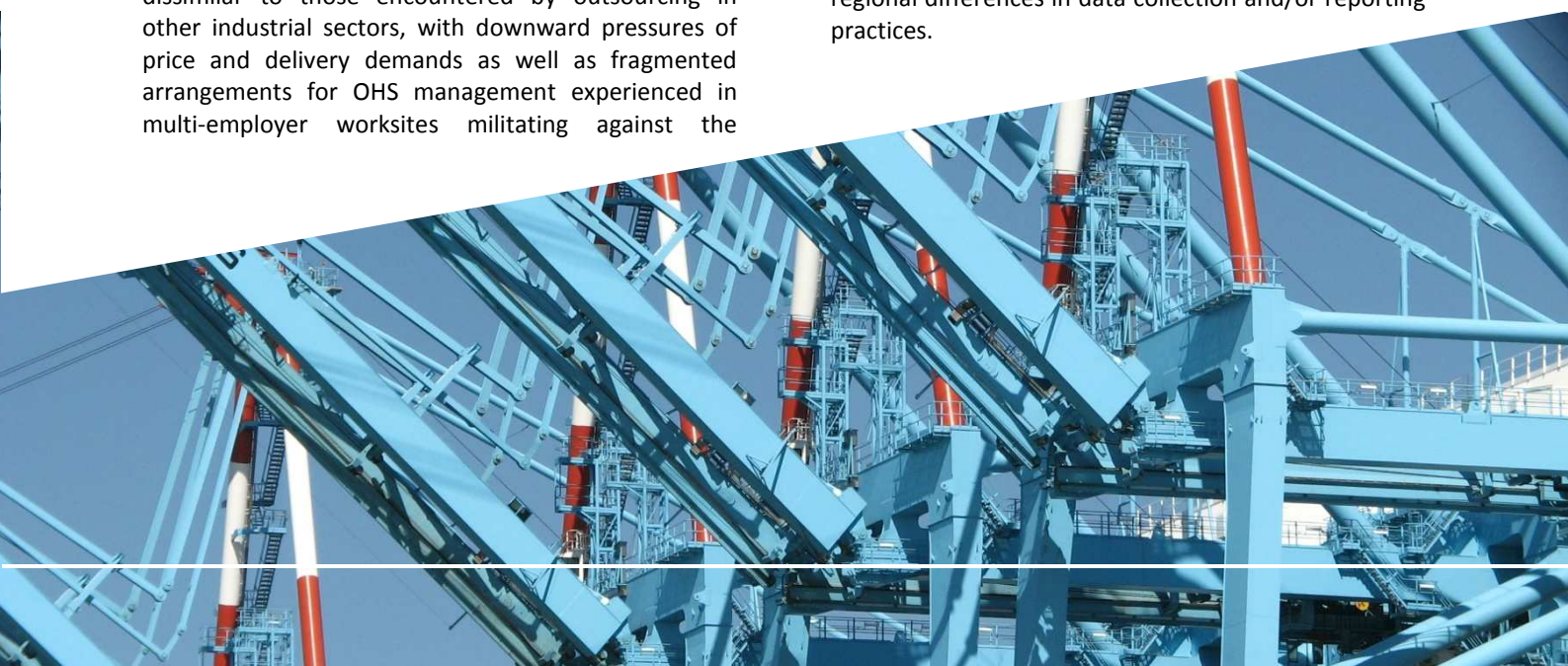
Accident rates and other OHS performance outcome measures

Finally we examined some data concerning health and safety performance as measured by injuries and time off from work. Using data supplied by three of the four GNTs that operated the terminals on which we focused, we have been able to present a limited description of both global trends and those in the relevant case study terminals. The data (with some exceptions) suggest a general downward trend in injuries for most global regions.

Falling accident rates cannot be taken as robust evidence of overall improvements in health and safety performance because of data limitations

Accident rates

However, they also have some very significant gaps and limitations, suggesting that extreme caution is warranted before further comparisons are made. This is perhaps most clearly illustrated by the huge regional variation in lost time injury frequency rates (from over 80 injuries per million hours worked in Europe to under 1 injury per million hours worked in South Asia; and from just under 50 injuries per 100 workers in Europe to just under 0.5 injuries per 100 workers in Asia), which almost certainly reflects very substantial regional differences in data collection and/or reporting practices.



Mind the gap? Some tentative conclusions

There is a widely accepted notion that the transformation of dock work by containerisation and the changes that have taken place in its ownership, with privatisation and the subsequent emergence of a small number of major global operators with large scale global interests in the establishment of global terminal networks, has led to significant improvement in the implementation and operation of arrangements to manage health and safety and prevent harm to dockworkers globally. The available data on injuries in container terminals appear to support this notion by suggesting a broadly downward trend in many regions. However, as we have pointed out, the limitations of this data are such that this, on its own, cannot be taken as robust evidence of an improving pattern overall.

The study also identified a number of examples of good practice in relation to OHS management systems and practices. For example, there are indications of much to be gained from sharing experiences between terminals; so the practice adopted by the GNTs globally for sharing OHS information among the terminals is therefore to be commended and it is recommended that it be extended wherever possible. It is further evident that the GNT operators have acted responsibly and proactively in adopting health and safety management systems, and that these have resulted in significant improvements in OHS management and performance.

However, the study's findings are also suggestive of several areas of concern. These include the emergent risks associated with restructuring, reorganisation and intensification of work; the adequacy of arrangements and support for preventive occupational health (as opposed to safety); and the increased vulnerability of contract workers in advancing economies. In addition, the findings pointed to an over-concentration of managerial attention on behaviour-based safety management systems, leading to possible consequent oversights in the provision of support for preventive occupational health; as well as weaknesses in arrangements for consultation and representation on health and safety matters. These are recognised weaknesses of this type of safety management system which evidence from other industries suggests has limitations, especially in the extent to which it is able to address work-related health issues, fragmented worksite management created by outsourcing of tasks on the same worksite, such as were particular features of our advancing economy case studies, as well as low levels of useful representation of workers' interests in health and safety and consultation on new and

emergent risks. Further areas of concern identified by the study included limitations in the reach of regulatory inspection and in the reliability of reporting systems for injuries, fatalities and especially for work-related ill-health. Differences between experiences in terminals operated in advanced and advancing countries were apparent in many of these areas.

Overall, our findings suggest both that: GNTs have taken significant steps in advancing health and safety management and performance; and also that they have very substantial potential to do much more to effectively protect *all* those working in terminals. Similarly, while they have introduced practices from which those in other sectors can learn (in particular in relation to the sharing of experience and information), they can also further improve practice by themselves following the examples of others – in particular in relation to both: participative OHS management systems and practices; and the exploitation of their position as supply chain leaders for the improvement of OHS management by supplier organisations.

Changes in the structure and ownership of terminals have consequences for workers' safety, health and well-being

Global level health and safety management strategies have different outcomes in different terminals as a result of local situations and contexts

GNTs have taken significant steps in advancing health and safety management and performance – and they have very substantial potential to do much more to effectively protect *all* those working in terminals

Gaps to be filled include:

- **Health:** Performance statistics and health and safety management systems focus far more on safety than on health – making them an incomplete reflection of workers' experiences
- **Outsourcing:** Outsourcing is increasing – and contract workers are more vulnerable than directly employed workers

Advancing economies: Workers in advancing economies experience risks on a greater scale and their representation arrangements are weak

Mind the gap

1. Introduction and aims of the study

Ports have always been dangerous places in which to work. In the past, high levels of serious injuries and fatalities were associated with heavy manual handling work, while respiratory and other diseases were linked to working with toxic cargoes. Fatalities from falls and from falling objects (as well as from the movement of large items) were common, as were those resulting from working in confined spaces. While none of these has entirely disappeared, it is often claimed that they have been much reduced in the new generation of ports in which, in container terminals especially, highly mechanised and automated operations allow safety features to be designed into their engineering and operations. Such safety features have included removing workers from the vicinity of dangerous processes, while at the same time reducing the necessity for manual labour. This has been achieved through a mixture of technological change and the introduction of organisational systems for safety management that are more sophisticated than was previously the case.

The advent of 'the box' has transformed the structure and operations involved in loading and unloading ships, with increased mechanisation of cargo handling resulting in reduced heavy manual work as well as the need for fewer workers. However, while mechanisation in these terminals has certainly reduced absolute numbers of injuries and cases of ill-health by reducing the number of workers in many ports, it does not necessarily follow that it has made them safer or healthier places to work for the workers who are now employed in them. Before subscribing to this widely held assumption, it is important to review the evidence for it. This is also important in the light of the research literature in which structural changes in the organisation of work and employment, similar to those that have taken place in ports, are seen to present challenges for effective management of health and safety and lead to poorer health and safety outcomes in other sectors.

Global Network Terminals and Global Network Terminal Operators (GNTs) are large organisations and, as is usual among such organisations, they may be anticipated to have both policies and arrangements in place to manage their responsibilities for occupational health and safety (OHS). However, the forms of restructuring described above are equally likely to present substantial challenges to the effective operation of such policies and arrangements. In

keeping with the requirements of the tender specification, therefore, and in the light of the above knowledge, the aims of the research were threefold:

1. Identify the nature and extent of policies and arrangements made to manage the health and safety of workers in six ports in which GNTs operate container terminals and the extent to which they exemplify best practice in terms of participative approaches to OHS management
2. Examine the effectiveness of these policies and arrangements by analysing objective indicators of performance, where possible and through an examination of the perceptions of stakeholders (such as workers and their representatives, managers, and OHS specialists) concerning proxy indicators of their effectiveness in six such terminals
3. Discover to what extent the policies and practices adopted by the GNTs in managing OHS in these ports take account of the effects of the restructuring of work and employment

These aims were met using a multi-level approach to data collection and analysis. Facilitated by a global network meeting of dock workers' trades unions affiliated to the International Transport Workers' Federation (ITF), we carried out a global scoping questionnaire study of the experiences and concerns of unionised dockworkers in relation to container terminals operated by GNTs. From this, with the help of the Dockers Section of the ITF, we were able to identify six container terminals in which we could study the arrangements for health and safety and the experiences of dockworkers in greater detail.

With the full co-operation of three of the world's largest Global Network Terminal Operators, our study investigated the operation of occupational health and safety management policies, practices and their outcomes in selected terminals. Specifically, it examined overall company policies and strategies on OHS management in these companies and gathered evidence of their operation in the six terminals, four of which were in Europe and two in Asia. Thus it considered terminals in advanced market economies and in emergent economies. In each case, we sought to identify indicators of good practice in participative OHS management, as well as evidence of performance

outcomes including reported injuries, ill-health and incidents. As detailed in the methodology section, our research strategy attempted to combine investigation of the perspectives on the management of health and safety obtained from interviews with managers, safety advisers, key operatives and other relevant actors (supported with scrutiny of available company documentation) with analysis of workers' experiences through a parallel set of interviews with operatives. These interviews were arranged through the trades unions present at the various worksites that constituted the case studies. Throughout the study the researchers also paid particular regard to arrangements for involving workers and their representatives in the planning and operation of OHS management in the ports concerned. The following were compared both between and within the GNTs:

- Workers' perceptions of the risks of work in container terminals and the consequences for their health, safety and well-being
 - Experiences of health and safety practices, monitoring and adherence to best practice
 - Patterns of work organisation and their relationship to OHS management and its outcomes
 - Formal and informal arrangements for worker representation and participation in health and safety activity
- Accident rates (including fatal accidents) and other measures of OHS performance (such as accident types, ill-health etc.)
 - Quality and transparency of accident and other reporting mechanisms (including the role of the workplace safety committee in investigating accidents)

The research represented a significant first step towards assessing, and ultimately improving, dock workers' safety. There were, necessarily, limitations because of issues of data availability, access and comparability. The short duration of the project, in combination with its global reach, further limited the study to the collection and analysis of indicative data. Nevertheless we think our findings sufficiently robust to support conclusions concerning the experience of health and safety management in these terminals, as well as to suggest areas for further investigation.

In the following pages we first present an account of the research design and methods we used to conduct our investigation. We then present the main findings of the study. These are supplemented by detailed accounts of the analysis of: the interviews and questionnaire-based survey of a sample of representatives of ITF affiliated dock worker unions globally; and the case studies of the six terminals on which we focused. Finally we offer some preliminary conclusions and outline plans for more detailed study.

2. Research design and methods

This section briefly describes the methodological approach used in the study. For the sake of clarity we begin with an outline of our research design, its rationale and the instruments used to collect data, followed by an account of the research methods with which we conducted the study.

2.1 Research design, rationale and instruments

The aim of the research was to explore both qualitative and quantitative indicators of good practice in participative approaches towards managing OHS in GNT operated ports. In so doing we have adopted an approach to research design that we have used successfully in several previous research projects (see for example, Walters and Nichols 2007) in which, as far as possible, we have sought to mix qualitative and quantitative methods supportively and in ways that allow some corroboration in the analysis of findings. However, it must be made clear from the outset that despite adopting this approach, the study was considerably limited both by the time and resources available with which to conduct it and by the availability of data. We therefore regard it as a preliminary study. It is nevertheless useful in two respects. First as an investigation from which we can obtain evidence indicative of areas in which actions on policy and practice may be appropriate immediately, and second as a means of identifying important issues which require further and more robust investigation.

Our research design was essentially an investigation at two levels concerning health and safety policies, strategies and experiences in container terminals operated by GNTs. At the global level we sought indicative information from both trades unions and companies concerning these matters as well as reviewing information available from previous research studies. We were able to administer a questionnaire to a small number of trade union representatives globally as well as to interview a number of these representatives, using a semi-structured interview schedule. Both the questionnaire and interview schedule were designed to elicit respondents' perceptions concerning participative OHS management practices and performance and each sought information concerning perceptions of the presence and effectiveness of these arrangements under current conditions of employment. Such arrangements

included, for example, procedures for implementing the requirements of the companies' global safety policies; risk assessment and management procedures in relation to the specific hazards of the ports concerned; health and safety training, information and communication strategies for port workers (including any special arrangements to address contractors, sub-contractors and agency workers); risk control measures in relation to areas and topics of high risk including, for example, hazardous substances, confined spaces, container contents and loads etc.; measures to address psychosocial risks; procedures for monitoring the effectiveness of and adherence to health and safety management measures, including those for collecting and analysing information on injuries, incidents and occupational ill-health and the concerns of workers; and for all of these, arrangements in place to ensure that workers and their representatives are consulted in good time concerning their management.

We used the information gathered from this exercise to refine the design of research instruments and strategies employed at the level of the individual container terminals selected for our case studies. Here we adopted a straightforward approach to interviewing. Using essentially the same semi-structured interview schedule as in the global interviews (refined in the light of our global level investigations), in each terminal except one we interviewed two groups of individuals: those nominated following our requests to management and in parallel, those nominated following requests to the trades unions¹. With the former group we conducted individual interviews while with the latter both individual and group interviews were conducted. In our analysis we were thus able to compare responses from managers and workers to broadly the same questions concerning policies, strategies and experiences of health and safety management and their outcomes at each terminal. Trade union and worker representatives also had the additional opportunity of discussing their experiences with one another in the group interviews – an experience that was illuminating in a number of respects – and especially useful in highlighting common experiences and their perceived causes.

¹ In the exception, only trades union nominated individuals were interviewed as the GNT operating the terminal did not take part in the project.

Information from trade union officials and workers was obtained via in-depth interviews with union officials, representatives and port workers in each port studied. As mentioned above, the interview schedule for both groups was a modified version of that used for the global part of the study. The nature of the on-site interview process, however, allowed opportunity for more in-depth situated discussion of the issues respondents felt were especially critical in the delivery of effective participative OHS arrangements in each of the ports concerned including, for example, the effects of patterns of employment and labour relations as well as detailed discussion of employment arrangements, and indicators of work intensity (such as the throughput of containers (in, for example, Twenty feet Equivalent Units (TEU)) over time). This further allowed some degree of comparison between terminals operated by the same GNTs in different countries and across GNTs as a whole. It is important to be clear however, that all such analyses and comparisons within and between ports, GNTs and advanced/advancing economies, were dependent on the data made available to the project and that by definition, in a project of such limited length and resourcing, these limitations were significant.

Questionnaires, interview schedules, participant information sheets, consent forms and project flyers were drafted and designed using the research team's substantial previous experience, in accordance with the rigorous ethical standards required by Cardiff University and taking account of comments and advice from the ITF. They covered current and previous OHS performance and outcomes (including fatal and non-fatal accidents, injuries and ill-health) as well as the quality and transparency of accident reporting mechanisms; OHS management, including safety practices such as training, monitoring and adherence to best practice (and also supports, barriers and changes over time). Other areas including workers' access to safety equipment and training; the experience of accidents; and reporting and non-reporting of accidents and near-misses; were also addressed. In addition, further appropriate evidence, such as documentation and data, was requested prior to and during port visits.

2.2 Methods of data collection and analysis

For our global investigation we were able to take advantage of a global networking event organised by the ITF in which over one hundred representatives of dock-workers' trade unions globally assembled for an international meeting held in Aqaba, Jordan, in March 2012. We attended this event and were able to explain

our purpose to all the delegates and interview 30 of them individually and in groups, as well as administer a questionnaire (completed by 47 delegates) intended to elicit information concerning their health and safety experiences. These activities are summarised in Tables 2.1 and 2.2.

Following on from this, we undertook six case studies to investigate health and safety arrangements, outcomes and experiences in six container terminals operated by GNTs. We had originally intended to conduct these investigations in eight container terminals, selected from a list provided by the ITF and informed by our global findings, including two ports operated by each of the four GNTs (one from an advanced market economy and one from an advancing one): thus making a total of eight case study ports in all. This would have allowed for a balanced degree of comparison within and between each GNT (comparing data from terminals in the advanced and advancing market economies).

However, problems encountered with access to operators and trades unions in the time available for the study meant that we were obliged to modify this original plan and reduce the number of terminals investigated to six. All of the GNTs were represented in this selection, but only two ports were chosen from an advancing economy in Asia, while the remaining four were European. Asian case study terminals are referred to in this report as A1 and A2, while the European case study terminals are referred to as E1 to E4. The participating GNTs are identified in the text as GNTs A to D. Table 2.3 shows the personnel interviewed in each terminal. Despite this modification however, there was strong corroboration in the terminals studied of the issues indicated in the global findings.

Table 2.1: *Global investigation interview participants*

Country	No. of interviewees
Algeria	1
Australia	8
Bahrain	1
Belgium	7
Egypt	1
India	5
Jordan	1
Morocco	1
Netherlands	3
Yemen	2

Table 2.2: Global investigation questionnaire respondents

Total number of questionnaires completed	Respondents from advanced economies	Respondents from advancing economies	Countries represented
47:14 (30%) full-time union officials; 32 (68%) terminal workers; 1 (2%) no response	21 (45%)	26 (55%)	Algeria, Australia, Belgium, Costa Rica, Denmark, Egypt, Ghana, Hong Kong, India, Libya, Malaysia, Morocco, Netherlands, Philippines, Russia, Singapore, South Africa, Sri Lanka, UAE, UK

Table 2.3: Case study participants

Region	Terminal	GNT	Management Nominated Interviewees	Union Nominated interviewees
Europe – area 1 E	E1: 15 interviews with 20 people (12 management and 8 union nominated)	A	HSSE Manager; HSSE Facilitator; Operations Manager; Key Client Manager; Chief Financial Officer; Vessel Planner; Gate Clerk; Shift Leader; Assistant IT Manager; Execution Manager; TEC Manager; Refrigerated Container Supervisor	Union officer; Foreman (x2); Tallyman and lasher (x2); Union representative; Assistant Foreman and Straddle Driver (x2)
	E2: 15 interviews with 24 people (7 management and 16 union nominated, and 1 from the Port's central employment agency)	B	OHS Manager; Operational Manager; Terminal Manager; Technical Manager; Vessel Planner; Human Resources Manager (x2) Employment agency Safety Department Manager	Union Officer; Union-appointed employment agency Safety Coach; Dockers (and Union Delegates) (x2); Dockers (and Union Activists) (x5); Union Secretary; Chief Union Delegate; Dockers (and Union Activists) (x5)
Europe – area 2 E	E3: 13 interviews with 17 interviewees (9 management and 6 union nominated)	C	Managing Director; Safety and Security Manager; Operations Manager; Workshop Manager; Human Resources Manager; Terminal Supervisor; Workshop Superintendent; Safety Officer; Practitioner	Senior Shop Steward (x2); Safety Representatives (x2 – Terminal Operator (x2)); Shop Steward (x2 – Terminal Operator (x2)); Terminal Operator; Workshop Technician
	E4: 6 interviews with 8 interviewees (all union nominated)	D	NA	Convener; Senior Shop Steward (x2); Safety Representative (x4 – Tug Driver (x2), Stevedore, Crane Driver); Tug Driver
Asia A	A1: 13 interviews with 19 interviewees (11 Management and 8 union nominated)	A	General Manager HSSE; Assistant Manager HSSE; HSSE Trainer; Safety Supervisor (x2); Operations Support Executive; Operational Trainer; Head of Operations; Assistant Managers Workshop; Head of Engineering; Terminal Manager	Contract Truck-Trailer (TT) Drivers (x5); Crane Drivers (x3)
	A2: 9 interviews with 14 interviewees (6 Management and 8 union nominated)	C	QHSE&T Manager; Operations Manager; Assistant Safety Manager; Engineering Manager; HR Union Relations Manager; RTG Operator	Crane Drivers (x3); Contract Lasher (x2)

Before commencing our case studies of these ports, we sought information on the health and safety policies, strategies and performance of the terminals from their management teams as well as data already published by the GNTs, and through requests to their global headquarters for specific data concerning these issues. In the same way we sought to examine data on injuries, incidents and work-related ill-health in these ports made available by the local GNT management and by the global companies.

The project, therefore, collected quantitative data from three sources. As described above, questionnaires were distributed at the ITF global networking event. In addition, data on incidents, injuries and sickness absence, for direct and non-direct employees separately, over time, were requested both from the GNTs at the global level (i.e. for each of their terminals) and also from local management at each of the terminals visited for the case studies. The exception for these requests was GNT D and Terminal E4 as the company, and therefore the local management, did not take part in the project. Global level data were received from GNTs A, B and C, and terminal level data were also received from terminals E1², E2³ and E3. In addition, terminal level data were included in global level data provided by GNTs B and C (relating to Terminals E2, E3 and A2). For both E1 and E3, the terminal level data (i.e. not the global level data in the case of Terminal E3) were supplied as reports – that is the raw data were not included, so key statistics are simply reproduced in this report.

The questionnaire data were only intended to be used indicatively. It was not possible within the timeframe and budget of the project to survey members of all ITF affiliates involved in the container terminal sector, so a pragmatic approach using the ITF event was taken –

resulting in a small number of expected returns and a sample likely only to be representative of the event's attendees. The analyses of the questionnaire data presented in this report, therefore, are purely descriptive and simply make some comparisons between respondents from advanced and those from advancing economies. Nevertheless, taken together with the more detailed in-depth (qualitative) data collected during the case studies, we think the data are of interest.

The global and terminal level performance data were requested with the intention of comparing accident and injury rates and types over time on a number of levels including: contract types (direct and non-direct employment); and within and between terminals, GNTs and economy types (advanced and advancing economies). However, this was always dependent on the availability and quality of the data received and unfortunately most of it has not been possible to collect. This report, therefore, contains descriptive information only, with some comparisons drawn where possible. The implications of the data availability and quality issues for future studies are discussed in the report.

Ethical approval for the design and methods used in the study was obtained from the Cardiff University School of Social Sciences Research Ethics Committee prior to the commencement of the fieldwork. After participants' informed consent had been obtained, interviews were recorded. Recordings were transcribed and the transcriptions anonymised. Qualitative analysis was undertaken using NVIVO software. All data (qualitative and quantitative) were stored in accordance with rigorous standards required by Cardiff University.

² These are pooled port level data (i.e. not just the case study terminal)

³ These are pooled port level data (i.e. not just the case study terminal)

3. Health and safety experiences and concerns of trades union representatives globally

If, as frequently asserted, containerisation has transformed the structure and organisation of the work involved in the loading and unloading of ships, it is instructive to examine the experiences of workers and their representatives of the effects of these changes on their health and well-being at work. While conventional wisdom suggests that the technological and design innovations have reduced the occurrence of many traditional hazards of dock work and allowed opportunities to mitigate others, research on other industries suggests that other changes that have taken place in how work is done, who does it and in the intensity with which it is carried out, may have contributed to less positive effects on health, safety and well-being. The companies on which this study is focused are all large, global operators. In keeping with published research on health and safety management, it is anticipated that they would have systems in place to address OHS management in all their terminals, but these arrangements might vary according to local conditions. It is therefore further important to examine how responsive these management systems are to such changes, what similarities and differences exist between the terminals in this respect, and to consider how such comparison might be useful in informing the spread of good practice. In this Chapter therefore, we examine experiences and concerns among a global sample of trade union officials and representatives on OHS in container terminals. Before doing so however, we present some of the data on injuries and fatalities in container terminals

3.1 Accident rates and other quantitative measures of OHS performance outcomes

An obvious measure of the outcomes of health and safety management strategies is found in the occurrence of occupational injuries, fatalities and ill-health as well as in the occurrence of incidents with the potential to inflict such harm. Mainly for this reason and to fulfil various legal requirements, most employers routinely collect such data. In theory it should be possible to examine it and assess the overall performance of companies in terms of these indicators, as well as to consider trends over time and the effects of possible influences on performance. Unfortunately, however, there are a host of reasons why matters are not quite so straightforward. In the case of the companies involved in the present study, as we noted

in Chapter 2, the limitations on initial availability and reliability of the data provided mean that it has not been possible to undertake such a full analysis. The present report is restricted to presenting summary, descriptive information derived from the data supplied by three of the four GNTs studied. Despite these limitations, however, the information in the following section is useful. It allows for some limited comparisons and helps to illustrate why access to further information is important.

3.1.1 Lost time injury and fatality frequency rates

All three GNT operators approached for OHS performance data supplied some information. However, these datasets varied in their coverage and content. For example, while data for the years 2005 to 2012 were supplied, only years 2007 to 2011 were included in the data from all three GNTs. More significantly: denominator data varied from hours worked to numbers of workers; numerator data also varied, for example in relation to the inclusion or otherwise of fatality and/or incidents without lost time; and it was not always clear which workers were included in the datasets.

Given that all the datasets were limited and varied, only broad comparisons could be made. It is particularly important to bear in mind that: none of the data contain any information⁴ about job types, shift patterns, work intensity etc.; for much of the information, it is not clear whether contract workers' data are included; and most of the data exclude fatalities. All the information must therefore be interpreted cautiously. It is also important to note that, for confidentiality reasons, only limited, summary information has been presented here.

⁴ This is not to suggest that the data are not collected, rather, to be clear, that they were not supplied to the research team. This is in part because the original requests lacked some specificity (in relation to job type, shift pattern, work intensity etc.), as well as because, within the limited study timeframe, we were not able to make repeated requests for additional information in every case (though some such requests, for example in relation to contract workers and fatalities, were refused).

With some exceptions, global and regional lost time injury frequency rates suggested a general downward trend. There were, however, very large differences between regional rates. In fact the range was from 83.43 lost time injuries per million hours worked for Europe in 2006 to 0.16 lost time injuries per million hours worked for South Asia in 2010; and from 49.23 lost time injuries per 100 workers for Europe in 2007 to 0.49 lost time injuries per 100 workers for Asia in 2007. This almost certainly reflects very substantial differences in data collection and/or reporting practices across the regions and so emphasises the need for caution in interpreting these data.

Where limited comparisons between employees and contract workers were possible these suggested that both lost time injury and near miss frequency rates were, with some exceptions, generally greater among employees than contractors in all regions. However, it is noteworthy that in Europe, whilst lost time injury rates were substantially greater for employees than for contractors, the reverse was the case for near miss rates. Again, it is important to be clear that we have no information on the kinds of work carried out by those in either group, or their employment and working conditions, so it is not possible to draw any conclusions about the reasons for the differences between the groups.

In relation to fatalities, where these data were available, numbers were very small making extremely cautious interpretation essential. However, it is noteworthy that a single fatality in Europe over a five year period compared with four in Asia during the same time; which contrasts with the difference in lost time injury frequency rates referred to above, and again underlines our earlier suggestions of significant differences in work practices and conditions and/or reporting between the regions.

3.2 Global concerns: Findings from the global data

Findings on trade union experiences of health and safety in container terminals were drawn from the two sources summarised in Tables 2.1 and 2.2. Over two thirds of the respondents to the questionnaire were trade union representatives employed in container terminals, mostly operated by GNTs, while the majority of the remainder were senior officials of trades unions with membership in such terminals. Slightly more of the respondents came from advanced economies than from advancing economies (according to the

classification used by the IMF⁵). Altogether some 22 countries were represented among the respondents. They all had direct knowledge of the work organisation and work environment of the container terminals with which they were familiar and therefore with the arrangements for health and safety management within them. There was substantial variation between these terminals in the way in which work was organised, with a considerable range, for example, in the balance of directly employed and contractor workforces within them. There was a similar range in the extent to which workers belonged to trades unions at these terminals and the level of recognition trades unions received from management. The general trend, however, was for outsourcing of labour to have increased in recent years and for the proportion of directly employed workers to have decreased. When asked about their experience of how closely the trade union worked with the terminal operator, the largest group of respondents (46%) indicated that the relationship was 'quite close', and when asked whether this relationship had changed over the last decade nearly half of respondents to this question indicated it had not changed, while nearly one third suggested it had become closer.

Of the interviews conducted with the 30 participants at the global event, seven were conducted with individuals, the majority of whom were trade union leaders, while six were conducted as discussions with groups of trade union representatives of the same nationality. The size of these groups varied (from two to eight). All the interviewees held trade union positions of one sort or another and all except two were employed in dock work (both of the latter two held senior leadership positions in dockworkers' trades unions). In the following sections we draw attention not only to the findings from these sources in general, but also to what they suggest concerning similarities and differences between the experience of work in container terminals operated by GNTs in advanced and in advancing market economies. In addition, in the following section we also refer to company data on injuries and fatalities globally, the sources of which are outlined in section 2.2 above. The findings that follow are based on all three sources of data.

3.3 Perceptions of workplace risks

Respondents to the questionnaire identified a range of workplace risks that were of concern. They included

⁵<http://www.imf.org/external/pubs/ft/weo/2008/02/weodata/group.htm#ae>

risks to safety from various operational activities such as: the stacking of containers, lashing and securing operations (including the risk of trips and falls from height and of being struck or crushed by falling objects — including the containers themselves); vehicle and other operations in transporting containers within the terminal; poor road and dockside surfaces; poor ship design and lack of attention to maintenance on board; dangers of contact between mobile machinery and workers, as well as risks to workers in operating the machinery, particularly those associated with poor ergonomic design and excessive vibration and risks associated with poor maintenance of machinery or the replacement of worn or damaged parts with those of inferior quality. Poor environmental conditions such as inadequate lighting, excessive noise levels, and issues of thermal comfort in the container terminals were also identified. Concern was further expressed over the risks associated with the presence of unidentified hazardous cargoes in containers. Inadequate or non-provision of personal protective equipment (PPE) was a further issue for some respondents, as was the lack of proper welfare facilities. Many of these issues identified by respondents to the questionnaires were discussed in greater detail in the interviews with both individuals and groups. On the serious and sometimes fatal risks of crane operations, for example:

'there are fatal accidents... these things are regular, regular goings on.'

Advancing Economy Trade Union Representative

'...so when a container drops on you, you die and that happens with these cranes.'

Advancing Economy Trade Union Representative

'...we had a very bad accident, we lose one of our members a mobile crane driver and he was lifting a heavy lift and actually the jib or the arm of the crane broke down. He was in the cabin and he was smashed down with the cabin. He lost his life.'

Advancing Economy Trade Union Representative

Less dramatically musculoskeletal problems, especially back problems among crane operators, also featured prominently:

'Most of the people are having backbone problems. They are claiming, they are saying you are very lazy, they are reporting them as workers that don't want to work.'

Advancing Economy Trade Union Representative

'Historically there's been trouble with ten per cent of the workforce at any given time. There's some sort of restriction or injury as a result of driving straddles day in day out and the company have never implemented a plan to try to address that — it's just churn and burn...'

Advanced Economy Trade Union Representative

On the physical environment:

'But what they do lack is minimum vibration standards, minimum noise standards, which is affecting them, affecting their health and.... um.... some sorts of injuries regarding this issue are not recorded as LTIs.... Doctors are not qualified.... they know nothing about noise or vibration, they don't even have the measurement equipment for measuring the number of decibels.'

Advancing Economy Trade Union Representative

Respondents to the questionnaire indicated that there were consequences for their health and safety resulting from the way in which work was organised in container terminals, especially in terms of the fatigue and stress associated with long hours of work, difficult shift patterns and work intensity experienced during loading and unloading operations. Again, these were discussed by participants in the interviews:

'There is always stress of course, when there is pressure to finish off the work within the shift that brings some stress. That causes accidents, I'm quite sure about that.'

Advancing Economy Trade Union Representative

'Like so many boxes we need to do and the more I do, the better I do my job and the more happy my boss will be. It creates a very unsafe environment.'

Advanced Economy Trade Union Representative

There was a perception that at least in some terminals payment systems tended to encourage operatives to work faster and to take risks in order to get work completed and receive greater financial rewards as a consequence:

'When they are chasing the dollar mate, health and safety goes out the window.'

Advanced Economy Trade Union Representative

Contracting work out and casualisation were also identified, both in the responses to the questionnaire and in the discussions with individuals and groups, as responsible for creating risks, with concerns expressed over poor safety awareness, inadequate training, and the absence of proper health and safety management among contractors:

'Most of the activities relating to the terminals are outsourced, or contracted out, all these contract workers they are not adhering to any safety and health regulations they are exploited by the contractors. This is basic, this one. And also, these contractors are employing untrained people. Untrained people for terminal activities. That will attract more accidents and more fatal accidents because they don't know what to do.'

Advancing Economy Trade Union Representative

'... in regard to the outsourced workers, 96% of the injuries are from the outsourced workers.'

Advancing Economy Trade Union Representative

'So we work a lot with those contractors now, which is a big problem safety issues wise.'

Advanced Economy Trade Union Representative

Outsourced workers were regarded as being more vulnerable because their jobs were often less secure than those of the directly employed dock workers:

'And as far as contract labouring are concerned they are doing an unsafe job..... if they complained about all these things, they will lose their job.... They will lose their job.'

Advancing Economy Trade Union Representative

'....they force us, I am saying force us to carry the cable. 11,000 volts? See how it is? We refuse, there are contractors from [another Advancing Economy].... they ordered them to do it so they did.'

Advancing Economy Trade Union Representative

There was a particular concern, among interviewees with experience of container terminals in advancing economies, about what they perceived to be the increasing practice of contractors employing migrant workers, who were seen as especially vulnerable to the

risks of work in the terminals, partly because they were frequently unskilled, inexperienced and untrained, but also because of their greater dependency on contractors, not only for their wages but also for their domicile and welfare:

'So now in particular most of the people are migrant workers. For example the fatal accident that took place six months back in my port, nobody knows who he is, the person who died.... Everybody has come but nobody knows who they are.... The contractors also bringing the workers and once this kind of accident took place, immediately they will go back saying we are nothing to do with this.'

Advancing Economy Trade Union Representative

Many of the concerns about the hazards and risks of the terminals, such as those of moving machinery, lifting, loading and stacking operations, poor PPE, fatigue, and musculo-skeletal disorders, as well as the time pressures associated with loading and unloading ships, were identified by respondents from both advanced and advancing economies. Others, such as poor welfare facilities, environmental hazards such as poor lighting, noise and heat stress, and risks from hazardous contents of containers, were more commonly identified among respondents from advancing countries. Psychosocial risks leading to stress, the risks to health of an aging workforce, the challenges to maintaining safety standards with increasing intensification of work and the poor design of ships were mentioned by respondents in relation to experiences in advanced economies. In terms of work organisation, respondents from both advanced and advancing expressed concerns about the health and safety consequences of contracting terminal work out to operators with poor health and safety management systems and untrained operatives, but this appeared to be a particularly prominent concern for the respondents from advancing economies, who also indicated other concerns in connection with outsourcing, including issues of poor employment security, and the absence of a guaranteed minimum wage, as well as resistance to trade union organisation.

3.4 Health and safety management systems, policies and practice

Respondents to the questionnaire reported a mixed experience of health and safety management. On the one hand, there was generally awareness that the companies responsible for the operation of the container terminals in which respondents had

experienced work, had arrangements in place to manage health and safety matters. On the other, respondents clearly perceived there to be a range of limitations in relation to the relevance of some of these arrangements to their experience of work in container terminals and limitations to the extent to which they addressed the health and safety risks to which respondents felt themselves and/or their colleagues to be exposed. As one interviewee said of the health and safety management system in place in an advanced country:

'...in terms of (name of GNT), they've got the best systems in the country. That don't mean they're adequate.... they can roll out the best dog and pony show around as to how you should be, but commercial pressures often stand in the way of the implementation of it.'

Advanced Economy Trade Union Representative

Respondents to the questionnaire made it clear that these limitations were especially the case in relation to risks to health and well-being associated with the organisation and intensity of work and whether work was undertaken as a core or outsourced activity at the terminal. It was also the case in relation to the influence of such features on safety and the responsiveness to accidents.

The large majority of respondents (over 80%) were aware that the company operating the container terminal in which either they or their members worked had written policies on OHS. Only slightly fewer were aware of written standard procedures and systems in place for dealing with OHS issues. While all the respondents from advanced economies who answered these questions indicated that in their experience terminal operators had such systems and procedures in place, more than a third of those from advancing countries indicated they did not. Despite the generally high incidence of awareness of the existence of these systems however, more than 40% of respondents described them as not very effective and the majority of respondents (over 80%) felt they could be improved.

More than a third of respondents felt that such systems and procedures did not extend beyond the directly employed workers in the terminals with which they were familiar. Experience of coverage of contractors and their workers was poorest among the respondents from advancing economies – where nearly half of the respondents indicated that systems and procedures for OHS did not extend to workers who were not directly employed by the organisation

responsible for operating the terminal. Interviewees indicated a similar experience:

'...the GNT operator, they say, oh he is our vendor, those are not my workers. Sorry, was there an accident? Oh I'm sorry about that, but that is not my worker....'

Advanced Economy Trade Union Representative

Health and safety systems, policies and procedures in the terminals predominantly addressed traditional safety concerns such as the wearing of PPE, requirements for periodic inspection of hazardous machinery and for the replacement of older machinery, as well as covering the use of safety signage, safe-work instructions and guidelines, safety briefings, other health and safety training, safety information bulletins and so on; with encouragement of safe behaviour also evident through systems for certifying competencies in safety, supervision of safe behaviours, and campaigns for raising safety awareness. Responsibility for arrangement and co-ordination of such activities was commonly held by the Safety (or Safety and Environment) Department:

'Each terminal has a special manager for health and safety... a complete department you know, a manager and people who work with that guy.'

Advancing Economy Trade Union Representative

These arrangements were confirmed by comments from the interviewees and during group discussions:

'Safety systems, safety department,... there are circulars, there are seminars, there are training programmes.'

Advanced Economy Trade Union Representative

The particular focus on safety behaviour was a prominent feature of the systems and practices described in detail by interviewees.

'... at the beginning, they just keep the worker go on with their work, but nowadays they change this attitude, they sit down the morning with a supervisor and they given safety.... What they call it? Safety talks.'

Advancing Economy Trade Union Representative

These were, essentially, behaviour-based approaches to OHS management systems and as such seemingly

quite alike in general outline. It appears they followed a fairly similar generic model of safety management system which may have been adopted globally by the GNTs, having regard to OHS systems' standards, such as OHSAS 18001, and also possibly influenced by commercially available models such as the Dupont system. It seemed evident that these systems had been rolled out to the individual terminals under the control of the different GNTs, from which there was some room for adaptation to local conditions.

These systems were perceived to address the traditional concerns of safety management such as safety risk assessment, control measures, the structures and responsibilities for safety management, monitoring of performance and communication of safety messages. As noted above, emergent risks, such as those associated with changes in work structure and the organisation of work, were less frequently addressed, as were risks to health (as opposed to safety) generally. For example, on the issue of long or irregular working hours, over half the respondents indicated that these were not addressed in company policies on OHS — with less than one third indicating they were addressed in advancing countries.

More than three quarters of respondents said that work-related stress was not covered by health and safety policies and procedures, while bullying or harassment and violence at work was covered in more than three quarters of the responses from advanced economies, but in only one third of those from advancing economies. In terms of the development of these OHS management policies and systems, we were interested to find out what respondents thought had been the main influences upon them and to compare regulation, regulatory enforcement and business practices in this respect. Over three quarters of respondents (82%) identified regulation as the main influence, followed closely by regulatory enforcement (73%), with just over a third identifying business practices as an influence. Similar sentiments were expressed in the interviews:

'Regulation helps also of course, the awareness, like sustainability again there are more, you need, you must comply with some regulations and the standards are higher than they were 20 or 40 years ago. So also regulation helps in that way.'

Advanced Economy Trade Union Representative

However this may have been an expression of what was thought to be ideal, rather than what was reality. From the details that emerged in interviews and group discussions it was evident that in many countries the

appearance of a regulatory inspector at the terminal was regarded as an increasingly rare event even in advanced economies. As one interviewee said:

'In (advanced country) we have few labour inspectors. When the labour inspector is coming they always say we'll come tomorrow and see the books, but it's not often, only when an accident is happening, they're always coming.'

Advanced Economy Trade Union Representative

It was also felt that such inspectors were now most likely to be generalists with no particular expertise in dock work:

'No they don't have enough people for it, one inspector has to do two or three thousand companies....they sent someone from construction, so he doesn't know anything about dock work. They send someone but he doesn't have a clue about what is lying there, what is happening here.'

Advanced Economy Trade Union Representative

While among interviewees from advancing countries, as well as concern over the scarcity of inspectors, there were strongly held suspicions that regulatory inspectors were susceptible to persuasion to overlook contraventions of regulatory requirements.

'Safety inspectors, they are coming or not we don't know, in [Advancing Economy] government official has not much interest like your countries, they are coming and making money and going back, this is the situation'

Advancing Economy Trade Union Representative

Respondents felt that existing policies and procedures could be improved in a number of ways, such as with arrangements for more training, more frequent meetings with contractors and better provision of PPE and so on, but the most notable ways of securing improvement, which were held in common in suggestions from respondents to the questionnaire from both advanced and advancing economies, concerned better regulation and its stricter enforcement, along with greater consultation and involvement of workers' representatives and trades unions in making and applying policies and in operating OHS systems.

In relation to health and safety management practice, we focused on experiences of the provision of PPE, OHS training (including induction training), guidance, arrangements for health surveillance and access to occupational health services. We were interested in how satisfactory respondents found these provisions and whether and how they might be improved.

Our findings indicate that in the experience of around two thirds of respondents to these questions, terminal operators ran induction programmes on health and safety for their operatives, addressing the most significant risks. Interviewees also spoke of training and instruction as central to the behaviour based approach adopted by the terminal management:

'...these two terminals are being very pro-safety. They are taking classes, many programmes, training programmes, they are taking and every year in the terminal they are following the safety. If someone, a contract worker, not following the safety then they will be punished. Helmet is compulsory, all have the shoes, everything and they should follow all the procedures....'

Advancing Economy Trade Union Representative

'They are doing full ops now in all aspects of health and safety. They are holding meetings for employees to raise their awareness of health and safety.... and managers are asked to do 24 safety tours per year.... each one of them and they're making sure everybody is with high standards of health and safety.'

Advancing Economy Trade Union Representative

However, a much lower proportion (40%) indicated that induction programmes were available to workers who were not directly employed by the terminal operators. Various alternative provisions were identified for such workers including training for managers or skilled workers only, short briefings from the main employer on first entry to the port, or simply leaving it to contractors to themselves provide such training. Nearly two thirds (63%) indicated that the terminal operators also provided additional training on health and safety for their workers, although here again, the majority of respondents to this question (67%) said that they did not provide such training for contractors' workers, with most respondents from advancing economies (79%) indicating this was the case. Guidance on working safely was also provided by most terminal operators, including by way of pre-shift

briefings (66%), and through written and/or pictorial forms of guidance (78%).

Among the interviewees there were mixed views on provision and use of PPE. On the one hand there was some acknowledgement that this had often improved in terminals since they had been taken over and operated by a GNT operator:

'...before (name of GNT) started they haven't been using any health procedures, they haven't been wearing helmets or safety shoes or anything, even some coming with their tennis shoes.'

Advancing Economy Trade Union Representative

Others clearly regarded what they saw as the terminal operators' focus on the provision of PPE as a limited expression of what was needed for the better protection of health and safety overall:

'Safety only in one thing — when you go to the gate.... they ask you to begin with the helmet and vest, this is the safety. That's all.'

Advancing Economy Trade Union Representative

And they linked this to an over emphasis on behavioural safety management strategies which they found at times excessively zealous:

'I've been threatened with given the sack because I didn't wear a helmet for two seconds when I stepped out of the vehicle...'

Advancing Economy Trade Union Representative

Respondents' experience of access to occupational health services for directly employed staff appeared to be quite high (almost 70% indicated such access was available), although what was understood as 'occupational health services' may have included very limited services or simply referral for treatment outside the terminal (see below for a further discussion of this point). It was more limited for indirectly employed staff – with less than one third of respondents to this question indicating there was any provision. In terms of health surveillance, most respondents to the question indicated there were forms of medical screening routinely conducted for permanent staff. Some 60% said health screening took place at induction and 57% said that regular medical screening took place. There was a much lower experience of both of these forms of intervention for indirectly employed workers. Generally such services were provided by medical and nursing organisations outside the terminal.

3.5 Arrangements for monitoring performance on OHS and feeding back information

Feedback loops are integral to any OHS management system. Their role is to monitor performance and to identify areas in which improvements can be sought. A range of such provision might be anticipated to be in place in any large organisation, including accident and incident reporting procedures, reporting of inspection, investigation and audit results on all health and safety related matters, as well as systems to communicate actions required as the result of such information.

We therefore sought information, through the administration of the questionnaire and the interviews, on the extent of these systems in the container terminals with which our respondents were familiar. We found a range of experience and some apparent weaknesses, which previous research findings also indicate might be anticipated in multi-employer worksites.

Most terminal operators collected information on accidents, near misses, injuries, and sickness absence. They also investigated accidents and incidents. All the respondents from advanced economies indicated this to be the case. However arrangements appear to be less than entirely complete in terminals in advancing countries. Here only 80% of respondents indicated that such information was collected by terminal operators on accidents; 36% on near misses; 72% on injuries; and 52% on sickness absence. Similarly, while there was a relatively high proportion of terminals that collected this type of information concerning their directly employed workforce, it was less so for the indirectly employed workers, with under 40% of respondents indicating such information to be collected. Just over half of the respondents from both advanced and advancing countries indicated that these data were accessible to trades unions.

As well as issues concerning the availability and completeness of the information, in interviews and discussions with respondents there was considerable criticism of the quality of the reporting systems and the accuracy and reliability of the information they were able to collect and disseminate. Interviewees also suggested that the health issues they experienced were less likely to be reported than those of safety. Under-reporting of health issues was also claimed to be common and to be related to their lack of specific identification:

'Under labour law there are some specific injuries which are recorded as LTI but those just like a sprained ankle or something which is because of the vibration and noise is not recorded.'

Advancing Economy Trade Union Representative

Under-reporting was claimed to be endemic in many container terminals and several reasons were identified as to why this was so. One concerned the effects of rewards for achieving reduced injury rates:

'There is incentives... supervisors at (name of GNT terminal) are paid a bonus when lost time injury is reduced,...We've had members that have put in reports about injuries or things and they haven't been processed at certain times because it's leading up to, say, their bonus period and if they can keep it down.... they can get their bonus. So yes, for reporting there is an incentive not to report.'

Advanced Economy Trade Union Representative

There were also felt to be risks for the workers themselves in reporting accidents and incidents which may have discouraged them from reporting such events:

'...the problem is that the worker is put between two bad choices, which is that the LTI in his record means less promotion. Yes, less, you know, promotion and evaluation.'

Advancing Economy Trade Union Representative

This was not just a concern in container terminals in advancing countries but also something of an issue in advanced ones too, where it was seen by some discussants as being related to the emphasis in the safety management system on behavioural safety:

'And they refuse to absolve anyone from blame for reporting... I mean one company that put these little books, and they have to fill in a near miss... and the blokes used to call them "dob a dockers"... because it was a fear of the intimidation and the targeting of the people who did it. So they are absolutely disingenuous on this stuff.'

Advanced Economy Trade Union Representative

A practice of treating injuries with first aid to avoid reporting them as LTIs was also mentioned:

'But you treat them first aid and that's it and it doesn't come anywhere on paper.'

Advancing Economy Trade Union Representative

As was persuasion to bring about early return to work or encouragement to take holiday leave instead of sick leave following an injury:

'...but there's a lot of pressure on injured workers to come back and that's all about workers' compensation premiums.'

Advanced Economy Trade Union Representative

In the case of workplace inspections and audits, again as might be anticipated with larger organisations, most of the terminals (60%) of which the respondents had experience carried out inspections to monitor health and safety arrangements, but just over half of the respondents found these processes to be not very effective. Interviewees also indicated that trade union representatives had only limited involvement in such monitoring:

*Interviewer: 'You're not involved?'
'Yeah we're not involved in the monitoring system.'*

Advancing Economy Trade Union Representative

3.6 Formal and informal arrangements for worker representation and participation on health and safety

An issue that was of particular interest to us in this study was the extent to which arrangements for health and safety management and practice allowed opportunities for the representation of workers' interests and for consultation between management and workers' representatives on health and safety matters at the container terminals. Our inquiry into all aspects of the experience of OHS arrangements at container terminals, such as safety policies, systems and practice, as well as monitoring and reporting arrangements, also included questions on the extent of worker representation and consultation involved in these issues. This was also the case for both the questionnaire and the interviews we conducted.

The picture that emerged from our analysis of the responses to these questions indicates a considerable range of engagement with workers' representatives in

the operation of arrangements for health and safety management in the terminals. Nearly half of respondents to the question (40%) indicated that generally the trade unions met with terminal management on a monthly basis, while just over a third (35%) indicated there was some other arrangement in operation in which they met 'sometimes, occasionally or when required'. Health and safety issues were a frequent topic of discussion at such meetings, with over one third of respondents saying this was the case 'most times' and a further third saying it was so 'every time' they met. Two thirds of the respondents said that there were changes made to the OHS arrangements as a result, citing such things as improvements in provision of PPE, improved safety procedures, better monitoring, changes to equipment and so on.

Looking in more detail at the extent of representation and consultation on specific OHS procedures and practices revealed a more complex picture. For example, in relation to the health and safety management system in place at the terminal, there was a decreasing scale in the degree of involvement experienced: a large majority (83%) of those who responded indicated that workers and their representatives were *informed* about health and safety and its management, fewer (72%) thought that they were *consulted* about it and still fewer felt they were *encouraged to contribute ideas* (67%); while 80% of respondents felt the involvement of workers and their representatives in the management of health and safety could be improved in various ways, including through the formation of joint health and safety committees, where they did not already exist, more consultation and greater engagement of management with workers' safety representatives in the practices of health and safety management such as inspections, risk assessments, sharing information etc., more facilitation of training and greater powers for workers' representatives to intervene in situations they regard as dangerous or where workers are perceived to be at risk of harm.

In relation to the more detailed procedures of health and safety management, less than half of the respondents felt that the container terminal management informed workers or their representatives about the information it collected on health and safety performance. Of those that had experienced such feedback, they indicated it was usually given at joint health and safety committee meetings or in some cases in direct consultation with particular worker representatives. Interviewees also expressed concerns about the availability and quality of this information:

'I think the safety committee, they have their own recording safety manager and he records all accidents or near misses. I mean they have recording all their accidents I believe but we, I, don't have access to that.'

Interviewer: 'You don't?'

'No.'

Advancing Economy Trade Union Representative

In other cases it was suggested that legal rights to information were helpful in this respect. It was pointed out the collective agreement could also require the provision of such information, which was regarded as helpful. However, there were few concrete examples provided in which this was the case. Concern was expressed that the terminal management was selective in its provision of information – tending to focus more on supplying information which indicated improvement, but less sharing of that which indicated problems.

In relation to accident and incident investigation, here again, respondents indicated that information on these investigations was made available through the joint safety committee, while in some cases workers' representatives were invited to be part of the investigation team. Some respondents pointed to the role of the trade union and worker representatives in protecting the interests of the accident victim and other workers during investigations, but others still, said that in their experience workers and their representatives were denied any role in accident investigation.

More generally, joint health and safety committees were seen to be of great potential significance in improving participative approaches to health and safety management, with numerous examples provided of how they provided a useful forum for consultation on health and safety matters. At the same time, other respondents noted that while this might be the case in theory, in their experience in practice, joint health and safety committees tended to be quite limited as forums for genuine or sustained consultation.

There was a marked divide between experiences in advanced and advancing countries in this respect, which was clearly related to the embedded nature and resilience of the position of organised labour in the wider industrial relations' contexts evident in the ports in the advanced economies represented in the global survey. In many of the advancing countries represented, trade union recognition, collective bargaining agreements, and the membership of trade

unions among dockers, were all relatively recent in origin:

'They worked for eight years without the union. The trade union is only one year old. During the eight years they were not able to claim any rights. Now they are working as a trade union to claim their rights but the employers' main concern is the financial benefits. What they are going to do is to focus on health and safety as a trade union.'

Interviewer: 'And what about labour inspection?'

'They don't have any inspections.'

Interviewer: 'And the role of the workers representatives in the workplace?'

'Until now the trade union is not taking any effective part...'

Advancing Economy Trade Union Representative

While in the words of a trade union representative from an advanced country for whom, having elaborated on the relatively well-developed arrangements for representation and consultation on OHS in a European container terminal with which he was familiar, there was also opportunity to turn to regulatory intervention:

'...if I have a problem with the company and they don't want to solve it, I just call inspection — government inspection.'

Advanced Economy Trade Union Representative

In other advancing countries, arrangements for representation were of longer standing but the extent to which labour had been able to make gains in terms of wages and conditions of work, including health and safety issues, were nevertheless perceived as quite limited in situations in which the position of labour more generally was itself quite weak.

In contrast, trade union discussants from advanced market economies provided detailed descriptions of the systems for representation that were in place in the terminals with which they were familiar. In some continental European countries for example, the role of the works council was emphasised, while in other countries emphasis was placed on the role of shop stewards' as well as on regulatory provisions for health and safety representatives and joint health and safety committees. In a European setting:

'In (name of terminal in Europe) we have three security levels. First there is a meeting between what we call prevention advisers...we attend them with one delegate

per 25 dockers... once there are more than 25 we need one guy from the floor who works there every day... up to a hundred we get two of them. We have meetings every two months and we talk about everything..... There's a problem, they call me, ten minutes later I'm at the company.'

Advanced Economy Trade Union Representative

While a dockworkers' trade union representative from a New World advanced economy explained:

'Shop stewards, yes so for all matters relating to members on that shift, so that's safety and industrial, but we have two committees in all the workplaces, one being the safety committee, elected safety committee and one being a site delegate, shop stewards' committee. These are all union committees and then you've got the broader delegate structures, where you've got other workers that are shift delegates... and it operates very effectively... we have the authority by our members and our union to stop the job and have full protection.'

Advanced Economy Trade Union Representative

In most of the experiences of arrangements for representation and consultation from advanced economies, therefore, it was the depth, longevity and resilience of arrangements that was their most notable feature, along with the various layers within them at each of which they were able to engage with their supervisory and managerial counterparts in consultation on a range of issues including OHS. These union delegates further explained that long established procedures, sometimes also supported by provisions of national regulatory frameworks for labour relations and health and safety in some countries, placed organised labour in a position of strength.

Altogether, the feeling expressed among representatives from advanced economies was that, in the best case scenarios, features of embedded national labour relations practices in dock work obliged the GNT operators, who were newer on the scene, to accept high levels of consultation with workers' representatives.

This is not to suggest that the trade unionists always felt they had achieved a satisfactory level of consultation on health and safety or that the companies concerned entirely bought into these ways of operating. In the interviews and group discussions, union representatives from advanced countries

expressed concerns about the attitude of the GNT operators with which they were familiar, both in Europe and the New World, suggesting that despite the comparatively strong position of organised labour in these terminals, it remained a struggle to achieve effective representation and consultation on health and safety. As one European union official put it:

'It's intended to do it together with the employers, all employers, not only the container terminal employers but all of them and we are now at a point that most employers want to contribute and want to work together with us, except for two, which are the two container terminals. So that's interesting enough, I think, many employers want to cooperate, to make training, to obtain a certificate, safety certificate.... and they didn't want to cooperate because they say safety is the matter of the company, we don't want other companies to look into our kitchen, we think that what we do is good enough and we don't need extras, and why should we help others with our knowledge of safety measures and so on ...'

Advanced Economy Trade Union Representative

3.7 Patterns of work organisation and their relationship to OHS management and its outcomes

Running through the responses to the questionnaire were repeatedly expressed concerns about the OHS consequences of contracting out within the terminals. Similarly, concerns were expressed about the effects of long working hours, shift patterns and intensive periods of work during loading and unloading operations, which, it was suggested, were not adequately addressed by the safety systems in place. They occurred in one way or another in respondents' comments in response to questions in virtually all the main areas covered by the questionnaire. A similar reoccurrence of this theme was evident in the interviews and group discussions, where a perception of the prioritisation of productivity over safety was also evident:

'It develops a bull system, what we call a bull system and the bull system is then reinforced by the employer by rewarding those who produce more or use it as a stick whereby those who stand up they remove them from these jobs, so there's, so that's the challenge we face in regard to the

individual bonus systems, it's very corrosive when it comes to the maintenance of safety.'

Advanced Economy Trade Union Representative

Dockers, especially from ports in advanced economies, had developed various strategies to offset these effects as they explained:

'But there have been ways in which we have fought back on it in regard to building safety, a safe workplace and a prime example of that is in (names port) and in (names another port) whereby the workers determined that nobody could go over a certain box rate.... So for seven years every single gang produced no more than 220 boxes.... You can only do that when you are intensely organised, that's the whole workforce, completely united and focused, you can't do that in many places....'

Advanced Economy Trade Union Representative

In other situations, despite the existence of company safety procedures, demands of productivity were perceived to result in conflicting messages concerning safety — the resolution of which for some trade union representatives was to advocate adherence to the established procedures, whatever the pressure to do otherwise — but at the same time they acknowledged that this could be difficult at particular times, such as in loading and unloading operations, when pressures and incentives to 'get the job done' might take precedence:

'...because the company wants or pays more attention to profits than it pays to attention to occupational safety and health and the workers do the same — so they are interested in profits more than they are interested in occupational safety and health and this is wrong of course.... Every procedure is written down on paper. When a boat's coming in and they have a hurry on it, the management is doing like this, and if you want to follow procedures, then they say why do you do it, because we are in a hurry to unload the boat? It's kind of mixed. They have it on paper, they say it to the dockers, these are the rules. But it's only for the outside, because when there is an accident they can say, we communicated it, they know it, but they didn't. But despite, always the pressure of management to do something quick. It's all.... the most accidents happen to do things fast. It's also a mentality thing for the dockers. Don't do it fast, always do it by the procedure, you

want to get home safe, you want to get in good health to your family, follow the procedures, despite what the management say.'

Advanced Economy Trade Union Representative

In the responses to questions concerning the most significant risks faced in work undertaken in container terminals, as we have already noted, respondents commented on the effects of long working hours, inadequate rest breaks, and difficult shift patterns and fatigue among operatives, which they felt led to increased risks of accidents. Others considered that the casualisation of labour and outsourcing of work to contractors with underdeveloped systems and arrangements for health and safety, increased risks and contributed to poorer health and safety performance overall in terminals.

Respondents identified the need to increase health and safety awareness among contractor labour forces. They suggested various ways to achieve this, essentially through better co-ordinated health and safety activities such as training, worker consultation through OHS committees, ensuring provision of PPE is equally available for *all* workers on site and that the same systems and rules apply to contractor labour as to the directly employed. They believed that contractors who failed to comply should forfeit their contract, while at the same time noting that provision of feedback on OHS performance did not extend to informing contracted or outsourced workers on these matters.

The reality for most respondents was expressed in terms of the existence a situation at terminals under which contract labour received poorer OHS management, information, training, welfare benefits and protective equipment and was often obliged to cut corners on OHS in order to meet the profit margins demanded by their employers. These in turn were regarded as working to the very tight pricing schedules that had been instrumental in winning their contracts from terminal operators in the first place. Under such arrangements, preventive approaches to protecting the health, safety and welfare of employees were often identified as among the first casualties of constraints on price and delivery. Respondents were asked if, in their experience, terminal operators tried to influence the ways in which their contractors managed the health and safety of their employees. The largest group of respondents to this question (44%) said that they believed terminal operators did not influence the suppliers of services in this way, but among those who thought they did, (just over a quarter of the respondents to the question), examples of such influence included ensuring all workers were wearing

PPE before entering the terminal, providing training for contractor workforces, or having strictly enforced safety systems in place and severe penalties for their infringement. Here again the evidence of operation of behaviour-based safety management systems was much in evidence.

These sentiments were repeated in the detailed accounts of contracting out provided during face-to-face interviews and group discussions. On the limited standard of protection afforded to the contractor workforce, for example, one union official said:

'...when our union was recognised, and we sign the CBA (collective bargaining agreement), in that CBA there was two or three clauses, regarding safety and health, firstly, personal safety equipment would be provided, second was that proper potable drinking water and all basic amenities were provided, thirdly there was no fatal casualty, in the whole terminal..., then when it applies they say it is only applicable to the permanent employees not to the contract employees. Now they are working in the same terminal, same type of the job....'

Advancing Economy Trade Union Representative

And in relation to the precarity of outsourced labour:

'So, another thing, main problem is safety, number one, those regulatory authorities, there is no monitoring this thing. And as far as contract labouring are concerned, they are doing an unsafe job... if they complained about all these things, they will lose their job.'

Advancing Economy Trade Union Representative

3.8 Conclusions

In this Chapter we first examined data we were able to obtain concerning health and safety performance as measured by injuries and time off from work in container terminals operated by the GNTs on which this study is focused. While (with some exceptions) the data suggest a general downward trend in injuries for most global regions, the provision of no data on ill-health and only limited data on fatalities, and perhaps even more significantly, differences in occurrences reported between regions, tend to indicate substantial differences in reporting practices. We cannot claim our review to be in any sense definitive. However, we think it provides some interesting indicators of the

limitations of the quantitative data made available to us and suggest that, as it stands, it provides only weak support for the widely held notion that work has become safer and with fewer risks to health as a consequence of containerisation and the emergence of the GNT operators.

We then set out to examine experiences and concerns among dockworker trade union representatives in relation to work in container terminals operated predominantly by GNTs globally. Our sample of respondents was very small, it was drawn from among a population of active trade union representatives and officials and we do not claim that our findings in any sense represent those of a properly structured survey. Nevertheless they provide a rich source of data volunteered by a group of experienced and well-informed observers concerning changes in ownership and operation of container terminals and the ways in which work is organised and undertaken at these worksites, as well as their impact upon the health, safety and well-being of the workers thus affected, in a range of different countries around the world.

We have considered what the experiences and concerns of nearly 50 representatives from trade unions from 22 different countries suggest about health and safety management and its outcomes in container terminals by focusing on six main areas.

We began with an account of the perception of risks to health and safety experienced in these workplaces in Section 3.3. Our analysis suggested that there were a set of risks from operational activities in container terminals, including those arising from unloading and loading ships and moving containers around the yards in which they are stored before travelling inwards or outwards to their destinations. These were essentially the conventional risks to safety from such operations as well as perhaps less obvious risks to health from poor ergonomic design and long or intensive shift patterns. Respondents also identified risks to health arising from the physical environment as well as safety risks associated with poor workplace infrastructure, and risks arising from inadequate information concerning the possible toxicity of contents of containers leading to failures in emergency procedures in the event of leaks or spillages. Perceptions of risks arising as a result of the challenges that outsourcing the ownership of work activities within terminals presented for effective OHS management were also frequently articulated by respondents to our questionnaire and elaborated on during our face to face interviews.

Turning to our second area of investigation we examined the experience of approaches to

management systems, procedures and practices to address these risks and prevent harm arising out of work in the container terminals. As we have presented in Section 3.4, there was substantial agreement between our respondents concerning the presence and broad character of the management systems for health and safety. There was strong evidence that the GNT operators had, in common with most large companies, invested in the adoption of both structures and procedures to deliver improved OHS performance within the terminals under their control. There appeared to be a broad similarity in the approach adopted globally by these organisations, best characterised as behaviour-based approaches to achieving OHS performance at the terminals. Features in common were those that might be anticipated from such systems elsewhere, including overall responsibility for safety being vested in the terminal management – with accountability to the company globally; a safety department in the terminal, charged with delivering the elements of the system rolled out at global level and subject to their adaptation to suit local conditions; strong emphasis on achieving improved ‘safety culture’ at the terminals through behavioural change; with the latter exemplified by strong emphasis on the issue and wearing of PPE, training packages emphasising rules concerning safe working procedures, systems for ensuring compliance through peer monitoring as well as supervision and so on. Respondents were critical of these systems, suggesting that they were superficial and limited ways of tackling the deeper issues of productivity, performance and work organisation which they believed determined many of the causes of accidents and ill-health. In this respect, they did nothing to reduce incentives on workers to take risks in order to meet productivity expectations, they had no impact on work organisation issues that caused fatigue, stress or musculo-skeletal disorders and they were pernicious in the way they laid blame for safety failings at the feet of the workers. Moreover, respondents pointed out that the directly employed workforce felt the effects (both good and bad) of such systems, but the workers of contractors (who often made up the majority of workers on the terminal) remained largely beyond their influence. There appeared to be some substantial differences in the character and operation of approaches to systematic health and safety management between terminals in advanced and advancing economies.

OHS management systems always have an element of feedback and dissemination in their makeup and respondents’ experiences of the effectiveness of arrangements in this respect was the third area of our inquiry reported in Section 3.5. We focused on two aspects, reporting arrangements for accidents and

incidents and risk assessment, monitoring and feedback. The detailed account of our findings indicates that as far as accident and incident reporting were concerned, respondents were aware of the existence of such mechanisms in most terminals, but often found them limited in their effectiveness. Various reasons were discussed to explain the under-reporting that many respondents believed to be endemic in the container terminals and they again drew attention to the gap between the effectiveness of arrangements that applied to the directly employed workforce and those for contractors and their workers. It was also suggested that, in terms of feedback concerning such intelligence, trade union representatives were sometimes denied access to such material. Again in this area there appeared to be differences in the experiences in terminals located in advanced and advancing economies.

Following on from this last observation our fourth area of inquiry, outlined in Section 3.6, concerned the extent of representation and consultation that featured in the arrangements for health and safety in the terminals of which the respondents had experience. There were two main reasons for this fourth interest. One was fairly obviously because we were investigating the experiences of trade unionists – who therefore were in a strong position to provide an informed response to this question. The second was because the overwhelming research evidence from other industries suggests that where arrangements for representation and consultation on health and safety are in place, performance outcomes, as measured by both direct and proxy indicators, are better than when health and safety is managed in the absence of such arrangements (Walters and Nichols 2007).

Perhaps not surprisingly, given our conclusions so far, the picture of representation and consultation on health and safety that emerged was mixed. There were once again strong differences between practices in terminals in advanced economies and those in advancing ones, as well as differences between arrangements covering the directly employed workforce and those of contractors’ workers. These may have been partly explained by the extent to which labour relations’ procedures were embedded in the terminals, the relative strength of the position of labour in this respect and the national regulatory context. They were also influenced by the attitudes of the global management of the GNTs towards the nature and form of consultation with workers’ representatives that it considered appropriate. In terminals in advancing countries there was little evidence of the presence of arrangements commonly associated with international standards on consultation and representation on health and safety.

Those in terminals in advanced countries appeared more developed.

Given that in each of the above areas respondents pointed to issues implicit in the structure and organisation of work which fell outside the arrangements to manage or be consulted on OHS, or were impervious to them, the fifth area of our inquiry into the trade union representatives' experience of OHS management specifically addressed the question of work organisation and outsourcing. Here, as is related in Section 3.7, as well as the points already made in this respect we also found there were concerns with the underlying extent to which the profit motive of the GNTs was driving the trend towards both greater outsourcing and the intensification of work in the container terminals, which in the eyes of many respondents was creating increasingly unsafe and unhealthy elements to the work environment that were generally not addressed by safety management systems in place in the terminals. At the same time, it was also noted that here the same structural and organisational elements not only made OHS management more challenging, they also made regulatory enforcement more difficult.

We began, with an examination of the limited data we were able to obtain concerning health and safety performance as measured by injuries and time off from work. We argued that limitations in this data made available to us made it unconvincing as a robust support for the notion that health and safety outcomes

have improved as a result of containerisation. The experiences of the trade union representatives and officials who took part in our global scoping study lead us to further question conventional wisdom concerning the safety, health and well-being of workers in container terminals. Overall, our findings are suggestive of several areas of concern, including the emergent risks associated with restructuring, reorganisation and intensification of work; the adequacy of arrangements and support for preventive occupational health (as opposed to safety); the increased vulnerability of contract workers; an over-concentration of managerial attention on behaviour-based safety management systems leading to possible consequent oversights in the provision of support for preventive occupational health, as well as weaknesses in arrangements for consultation and representation on health and safety matters. Further areas of concern include limitations in the reach of regulatory inspection and in the reliability of reporting systems for injuries, fatalities and especially for work-related ill-health. Differences between experiences in terminals operating in advanced and advancing countries were also apparent in many of these areas.

These concerns would benefit from further investigation. A first step in this direction involves a more detailed look at some of these practices in particular container terminals in advanced and advancing countries. This is the subject of the following chapters.

4. Description of the case study terminals

We now turn attention to a more localised examination of the issues identified in the review of the global experience of health and safety and arrangements for its management by examining the situation in six container terminals operated by four GNTs in three different countries (Table 2.3). In order to carry out these case studies, researchers spent several days in each terminal. Both management and union representatives were interviewed in five of the six terminals; only union representatives participated in the sixth terminal (Table 4.1).

Table 4.1: Case study locations and participants

Region	Terminal	GNT	Participants
Europe – area 1	E1	A	Management and Union representatives
	E2	B	Management and Union representatives
Europe – area 2	E3	C	Management and Union representatives
	E4	D	Union representatives only
Asia	A1	A	Management and Union representatives
	A2	C	Management and Union representatives

Chapters 5 to 7 present the findings of the case studies. Before this, the current Chapter provides a descriptive overview of the case study terminals themselves.

4.1 The six container terminals

All six of the case study container terminals operate in essentially the same way. Served by networks of other forms of transportation infrastructures (principally road, rail and inland waterways), they act as distribution hubs, with containers arriving by sea to be

unloaded and taken on to their destinations; and arriving by road or rail to be loaded and taken on by sea. Terminals, therefore, have substantial areas for storing stacked containers, as well as their own transport systems (made up, in the main, of combinations of tugs, trailers, straddle carriers) and reach stackers for moving and storing containers within the terminal confines. The terminals are subject to the provisions of the International Ship and Port Facility Security Code (ISPS Code) and so are high security areas to which there are restricted points of entry. Terminals generally operate through two main departments, operations (dock work and internal container transport) and engineering (maintenance and support of quayside plant and infrastructure), supported and coordinated by local management (including sections for planning, human resources, IT, health and safety and so on) which, to varying degrees, is overseen by the global operating company.

Despite these similarities, however, there are differences between the terminals in terms of their location, operation, structure, size, history and labour relations' arrangements, all of which play a part in determining the nature and operation of provisions made for managing health and safety within them. This Chapter, therefore, presents an outline of the wider context and environment in which each of the project's case study terminals operates. In addition, we were able to obtain some quantitative data on health and safety performance for some of the terminals, and these are also presented where available.

4.2 Asia

The two Asian case study terminals (A1 and A2) are part of the same port. The terminals are served by both road and rail infrastructure, although the bulk of container traffic is by road. The road infrastructure serving the port and the container depots is poorly developed, resulting in large numbers of loaded trucks and trailers waiting for long periods at the roadside with minimal rest and welfare facilities available to their drivers.

In both of the case study terminals, effective management of health and safety is the responsibility of the leadership of the organisation and is delivered through the line management of every department. To support this, in each terminal there is a department to

provide guidance and oversight of health and safety management across the whole of the terminal. In Terminal A2 there is also a company regional safety network with a regional co-ordinator which provides additional support and consistency with the approach taken at the GNT's other terminals both regionally and globally.

4.2.1 Outsourcing

In both terminals, the largest proportion of the workforce is outsourced contractor labour. It was not possible to obtain details directly from the contractors concerned, but there was agreement among the management and directly employed labour in the terminal that a relatively small number (under 10) of large contractors account for most of the contract labour. As a result, although there is some turnover among contractors used, generally hiring of contractors is fairly stable. Although the general approach toward outsourcing described by management is to keep the direct running of the port activities under the control of directly employed personnel (i.e. management and administration, loading and unloading operations including crane operation, safety services, maintenance and engineering) in fact, in both terminals outsourcing is more extensive than this: in addition to catering, cleaning, building and repair, the outsourcing of work also includes truck-trailer (TT) and lashing operations in both cases, and there is some outsourcing of rubber-tyre gantry crane (RTGC) operation in one of the terminals. In total, there are approximately 1050 people working at Terminal A2: 600 directly employed and 450 employed through contractors. In Terminal A1, however, of the total of approximately 1725 workers, just 300 are directly employed and 1425 are outsourced to contractors.

4.2.2 Arrangements for labour relations

The Port Trust is a tripartite body, deriving from the days when the port was entirely owned and operated by the state. Unions are recognised for collective bargaining purposes and they, along with management and the state, are represented on the joint health and safety committee for the whole port. However, the privatised container ports operate somewhat different systems of labour relations. From the start in these terminals the question of the role of trade unions in labour relations has been vexed and the trade unions have struggled (and continue to struggle) to win recognition and achieve the level and extent of collective bargaining agreements they seek. The

current situation, therefore, is both of relatively short duration and subject to further change.

There are two independent trades unions organising the dock and transport workers at the terminals, Union W and Union X. Both are affiliated to the national Port and Dock Workers Federation. In addition there are several other trade union organisations, such as Unions Y and Z, which were not affiliated to the national Port and Dock Workers Federation.

Table 4.2 gives details of union membership within each of the terminals. However, it is important to bear in mind that: Unions W, X and Y have only been in operation since 2004; and only Union W is recognised by the GNTs for collective bargaining agreements.

Table 4.2: Asian terminals' union membership

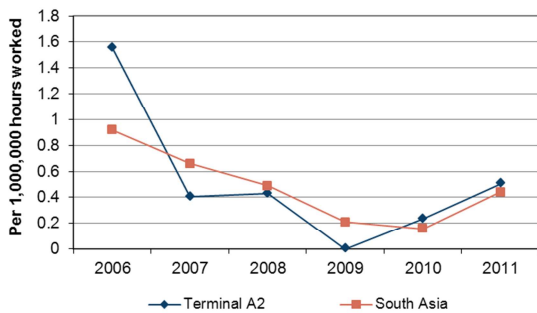
Union	A1	A2
Management's own Union	275	--
Union X	--	328
Union Y	377	179
Union W	400	70

There are no GNT recognised trade unions representing the Terminal A2 contract workers — who make up the majority of workers at the terminal (see above). Nevertheless, there is union membership among them and the efforts of Union W to represent their interests to the GNT are longstanding and on-going. Similarly, in Terminal A1 the only 'union' recognised by the GNT is an internal organisation set up by the GNT itself for its directly employed workers. Union X is the main independent union that is active among the Terminal A1 contract workers and there are lay representatives, for example among the Truck-Trailer drivers, who are aware of the health and safety issues affecting them and their colleagues.

4.2.3 Health and safety performance data

It was only possible to obtain health and safety performance data for Terminal A2, where data were provided by the GNT at the global level. Figure 4.1 shows the lost time injury frequency rate (LTIFR) for Terminal A2 separately and for all of the GNT's terminals in the region collectively. The patterns of rates over time are similar, suggesting that the case study terminal is broadly representative of the GNT regionally. Of course, as was made clear in Chapter 3, it is again important here and in relation to the rest of the terminals' performance data presented in this Chapter to bear in mind the limitations of these data and interpret them with appropriate caution.

Figure 4.1: Lost time injury rates per million hours worked: Terminal A2 and South Asia



4.3 Europe – area 1

The research team also visited two container terminals in a European country. Outlines are presented below for Terminal E2 first and then Terminal E1. However, port work is an exception under the national labour law system, so a brief description of employment arrangements, which are applicable to both case study terminals, is included here.

Employers in all ports are required to set up joint bodies that employ dockworkers on a day-labour basis. Individual employers hire most dockers by the shift from this ‘pool’ (though maintenance is performed by directly employed workers in Terminal E1 and by skilled dockers on permanent contracts in Terminal E2). This takes place daily at a central hiring office where terminal representatives stand on low balconies around the floor and announce the numbers and types of jobs for each shift, while the dockers stand on the floor and hand their cards to the terminal representatives to confirm agreements. Although there have been talks about updating and computerising this traditional old system, which also provides a social and union contact and meeting point, no decision has yet been made. However, increasingly terminal operators are offering dockers, particularly the most experienced and highly trained among them, permanent contracts which partly by-pass this system.

By law, dock work in this country can only be carried out by dockers trained by and registered with such a port body. However, when labour is needed and there are not enough registered dockers available, employers can hire outside workers for unskilled jobs such as lashing.

These unusual employment arrangements also affect labour relations in that relatively few dockers (generally just foremen and supervisors on the one

hand and maintenance workers on the other) have direct contact with management.

Practically all dockers in both Terminals E1 and E2 are union members belonging to one of two unions: M and N. Union M is the larger of the two and is affiliated to the socialist federation; while Union N is affiliated to the Christian federation. Although relations between the unions are strained (following a disagreement in 2011), they cooperate in formulating joint demands in negotiations with employers.

4.3.1 Terminal E2

Terminal E2 is situated in a port served by both road and rail infrastructures. In addition, containers, particularly reefers (refrigerated containers), are also transported by barge along the coast and on inland waterways. It has a white collar staff of approximately 700.

4.3.1.1 Labour system

The joint employment body for the port in which terminal E2 is situated operates the dockworkers’ training agency and has a significant role in terms of OHS policy (see below). This body employed 8,025 dockers in 2011, of which 5,719 were stevedores, 918 were skilled maintenance workers and a further 1,040 worked on logistics/warehousing in the port.

GNT B employs increasing numbers (currently 512) of dockers on permanent contracts (i.e. booking them permanently within the joint employment body system – see above). These dockers are guaranteed at least 80% of their monthly shifts, and are contractually prevented from working for other employers even if the remaining 20% is not taken up by GNT B (though with unemployment benefits for these shifts they are able to earn at least 90% of their full-time equivalent wage). The company has also recently started employing lashers on similar contracts, but currently still hires most of them from the pool. The number of temporary day-labourers hired from the pool varies substantially with demand and by terminal, but on average during 2011 it was approximately 100-200. In addition, the company also employs approximately 150 docker-technicians on permanent full-time contracts (again by permanently booking them within the pool system as they remain formally employed by the port level body).

The central agreement on dock-work in the port allocates all quay management to the dockers, so there are no white collar shift-leaders. GNT B’s white-collar staff, therefore, rarely go out on to the quay, and

management is instead coordinated through the dockers' own hierarchy of chief-markers, supervisors and foremen. GNT B also uses a limited number of contractors for some specialist roles in its terminals.

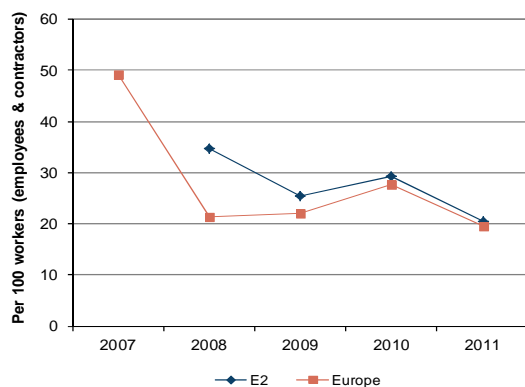
4.3.1.2 Arrangements for labour relations

Practically all of the port dockers are union members belonging to one of two unions: Unions M and N. Labour relations in the port generally are poor for a number of complex reasons, including the unusually large distance between white and blue-collar work created by the special employment system, the history of conflicts in the port and the opposing views on future development for the port. As a result there is an acknowledged lack of trust between dockers and managers in the GNT B terminals and in the port generally (with variations at the individual terminal level). Although managers in Terminal E2 recognised this lack of trust, those we interviewed did not see it as a major problem.

4.3.1.3 Health and safety performance data

GNT B supplied OHS performance data for terminal E2 within the global level data it provided. These data show that the lost time injury frequency rate for Terminal E2 followed a similar pattern to the overall rate for all of the GNT's European terminals, suggesting that the case study terminal is broadly representative of the GNT regionally (Figure 4.2).

Figure 4.2: Lost time injury rates per 100 workers in Terminal E2 and Europe



In addition, OHS performance data were supplied by both the joint employment body (giving port-wide data as opposed to terminal specific data), and Terminal E2 locally. Within these data, two areas are particularly noteworthy. First, a recent trend towards poorer OHS performance generally is apparent. For example, although there were no fatalities in Terminal E2 between 2007 and 2011 (and only one in GNT B's

European terminals as a whole during that period), there were five fatalities across the port as a whole in 2011 and a further five in the first five months of 2012. Similarly, across the port the accident frequency rate has increased (from 83 per million hours worked in 2009 to 96 per million hours worked on 2011)⁶, as has the average duration of sickness absence (up by 5 days since 2007). Second, the accident data show that lashers have the highest accident frequency rate, at around four times that for other dockworkers (383 accidents per million hours worked in 2011 compared with 94) and five times that for maintenance and warehousing staff. Furthermore, lashers with less experience have double the accident rate of their more experienced colleagues.

4.3.2 Terminal E1

Like Terminal E2, the second port in this first European region is part of, and competes within, a large regional port system stretching across several countries. It has a managing director, supported by seven senior managers, and two large departments, operations and TEC (technical and IT support), with about 30-35 staff each. The technical staff, therefore, consist mainly of skilled maintenance workers who, in this port, are directly employed (i.e. not through the pool system) by the GNT. In addition there are smaller supporting departments for marketing, sales, HSSEQ, HR and finance. Although there are several women among these office staff, and there have been one or two women working on the dockside in the recent past (generally in driving roles), at the time of our visit there were no women dockworkers.

4.3.2.1 Labour system and labour relations' arrangements

The 1,500 dockers in the port are employed by the joint body set up by all the employers in the port (see above) and are hired from a pool on a shift basis. Firms hiring dockers through this system become their legal employer during the shifts they hire them for, but dockers' wages (including vacation, retirement and other benefits) are paid to the joint employment body which then pays the dockers. Those who are not hired receive unemployment benefits. The joint employment body, therefore, functions as an employer and HR administrator. In addition, it trains dockers and provides them with work clothes and PPE, and has a

⁶ Recent information obtained from trade union sources after the completion of the fieldwork for this project suggests they reduced subsequently to around 91 per million hours worked in 2012.

role (albeit smaller than that of its counterpart in Terminal E2) in OHS policy (see below).

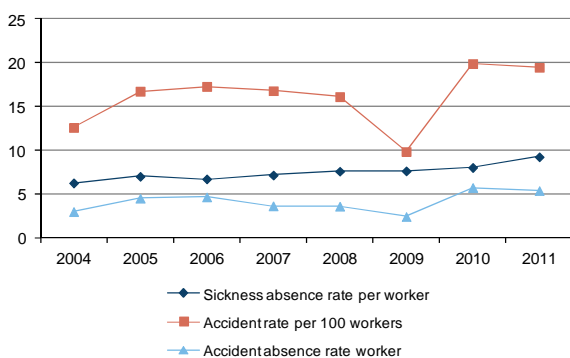
Practically all of the dockers are unionised and belong to either Union M or Union N. The two unions pre-negotiate between themselves in order to act jointly in the collective contract negotiations. Contracts are agreed at national, local and firm levels (with the latter covering some work conditions but not wages).

Terminal E1 uses very few contractors: only around 3-400 hours per month, and mainly for specialised work in the technical department. In addition, some of its security work is outsourced.

4.3.2.2 Health and safety performance data

Health and safety performance data were provided by the joint employment body, so they cover the whole port not just the GNT A case study terminal. Considering only sickness absences of under one month, on average in 2011 each worker had 9.23 days of sickness absence. In addition, absence as a result of an accident averaged at 5.36 days per worker; and the accident frequency rate per 100 workers was 19.47. Each of these rates represents an increase from 2004 levels of 6.25, 2.97 and 12.60 respectively (see Figure 4.3). No information was provided about sickness absence of longer duration, early retirement, or the causes of either illness or accidents; or about hours worked, job types and working conditions and so on.

Figure 4.3: Rates of sickness absence and absence as a result of an accident per worker; and accident frequency rates per 100 workers



4.4 Europe – area 2

The research team also visited two container terminals in a second European country: Terminal E3, for which health and safety performance data were also provided by the GNT both from the global and local levels; and Terminal E4, where union representatives only participated in the study (see Table 4.1).

4.4.1 Terminal E3

Terminal E3 is served by a road and rail infrastructure. Most of those working on the dockside are directly employed (approximately 500 in total). These workers are permanently employed and clearly felt secure in their jobs, with many having worked at the terminal for over 10 years, and following in the footsteps of their fathers and grandfathers.

In addition, however, contractors are used in a number of roles. The terminal's major contractor supplies about 100 terminal operators. With several specific exceptions, these workers can and do carry out all terminal operator duties as required. They are paid for a minimum number of hours (160 per month) and then paid for any additional hours they work (up to a maximum of 192 hours per month), allowing management to deploy them as and when they are needed. This is a long-standing arrangement, stemming from a take-over of the terminal some years previously. Contract workers are covered by the same union as directly employed workers, and there is an agreement that any changes in numbers of contract workers will be reflected in those directly employed (i.e. management cannot take on more contract workers without also taking on the same proportion of directly employed workers). Recruitment of directly employed workers is frequently from the contract worker 'pool'. Contractors are also used for specific functions such as specialised servicing of equipment. There has been little change in any of these arrangements in recent years, and relationships with contractors have been long-standing. However, the terminal's Labour Contractors' Pre-Approval Evaluation Checklist includes questions on potential contractors' health and safety record (e.g. annual lost time injury frequency rate for the previous 5 years) and management systems (e.g. frequency of safety meetings and inspections); and their Contractor Safety Guidance Document gives details of how the organisation manages contractors' safety procedures on site. Management justification of the use of the major contractor is flexibility (given the nature of the work and, more recently, in light of the economic conditions) and cost.

Women at the terminal are almost all employed in office-based positions. However, at the time of our visit there was one female terminal operator.

4.4.1.1 Labour relations arrangements

Union penetration is significant: virtually all those working on the dockside (Operations and Workshop) are union members. In addition, the terminal's major

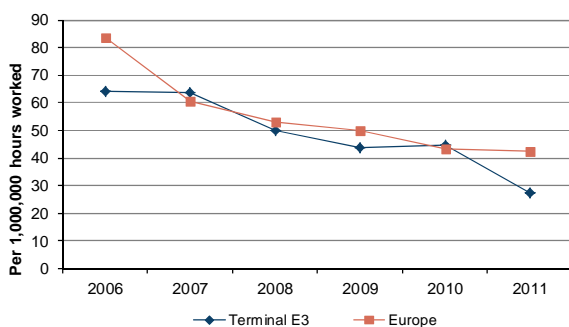
contractor is covered by the same union. This has clearly influenced all areas, including health and safety, and consequently there is a unified and co-ordinated approach to work and negotiations with management (for example in relation to working hours, sickness absence monitoring, changes in procedures etc.). This has been the case for many years and, as a result, labour relations in the terminal are mature, well-developed and generally good.

4.4.1.2 Health and safety performance data

Data provided by the GNT at the local (terminal) level, show that the terminal's lost time injury frequency rate (LTIFR) for 2011 was 28.32 per million hours worked. The terminal is aiming for a 10% reduction in 2012 on 2011; it achieved a reduction of 34% for 2011 compared to 2010 (28.32 from 42.73). Globally, the managing organisation has a target of 0 fatalities and a 20% reduction in LTIFR. The most common causes of LTIs in the terminal in March 2012 were: handling, lifting or carrying; and slip, trip or fall on same/low level (i.e. less than 1.5 metres). These LTIs most commonly occurred on a ship/lashing (followed by crane and straddle carrier/empty handler/reach-stacker), and most frequently whilst unlocking (followed by moving on-board ship (including the gangway) and equipment driving). The most common absence causing illnesses among directly employed staff for January to March 2012 were: musculo-skeletal (39%), respiratory (24%) and gastrointestinal (21%) (data were not available for contract staff).

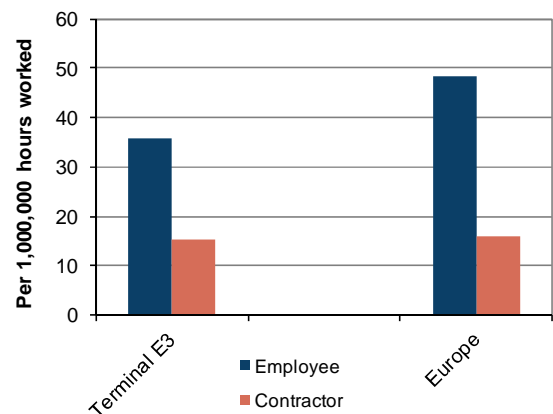
Data provided by the GNT at the global level show lost time injury frequency rates for Terminal E3 separately and for all of the GNT's terminals in Europe collectively (Figure 4.4). A fall in rates over time is apparent by for Terminal E3 and for the region generally, suggesting that the case study terminal is representative of the GNT's terminals in Europe.

Figure 4.4: Lost time injury rates per million hours worked: Terminal E3 and Europe



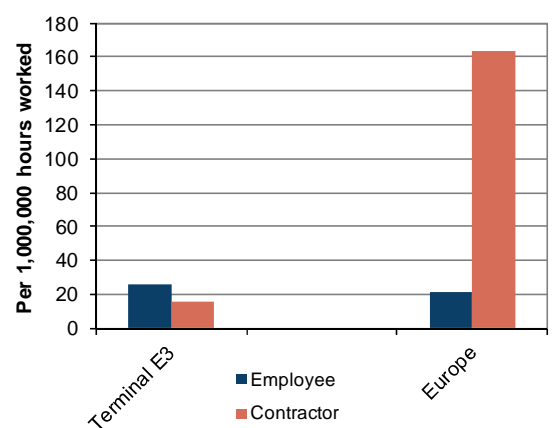
It was also possible to make some comparisons between directly employed workers and contractors within the data supplied for the first five months of 2012. Lost time injury frequency rates were higher among employees than contractors both for Terminal E3 and for all of the GNT's European terminals (Figure 4.5).

Figure 4.5: Lost time injury rates per million hours worked for employees and contractors separately: Terminal E3 and Europe



However, near miss frequency rates were slightly higher for employees in Terminal E3, but were substantially higher for contractors in the GNT's terminals in Europe collectively (Figure 4.6).

Figure 4.6: Near miss rates per million hours worked for employees and contractors separately: Terminal E3 and Europe



Again, it is important to note here that no information was made available about numbers of employees and contractor workers, or about the kinds of work and

working conditions of either group of workers, making interpretation of these data impossible.

4.4.2 Terminal E4

Terminal E4 is also served by a road and rail infrastructure. All of those working on the dockside (approaching 2000 in total) are directly employed. They are all permanently employed and seem to feel very secure in their jobs. Most of those we spoke to had worked at the terminal for over 10 years, with at least one a 'second generation' on the terminal. Contractors are only used for security and cleaning, and in some specialised technical roles such as plant maintenance.

There are a number of women employed at the terminal in office-based positions. In addition, however, about 15 to 20 women worked on the dockside in roles including tug and crane driving at the time of our visit. Up to that point, there have been no female stevedores.

4.4.2.1 *Labour relations arrangements*

Union penetration is significant: virtually all those working on the dockside are union members (approximately 1900). In addition, the union has had some recent success in recruiting the terminal's cleaning and security staff, all of whom are agency workers (see above). The strong union presence at the terminal has clearly influenced all areas, including health and safety. Labour relations are mature, well-developed and generally good. The working relationship between the management and union is generally close. It is primarily based on a collective agreement, which details the roles and responsibilities of all those working on the terminal. Several of the senior shop stewards referred to this agreement on more than one occasion and explained that managers would ring them to check, for example, whether they could detail particular crews of workers to carry out tasks at a certain time under the terms of the agreement.

5. Case study findings: Perceptions of work-related risks

This and the following two chapters consider the findings of the six case studies. They do so following a thematic approach. We begin in the present chapter with a consideration of perceptions of risks to health and safety among the management and workers in the six terminals studied, including views of occupational health at the terminals, an area on which there seemed to be some differences between the conception shared by workers and that understood by management. Subsequent chapters will then: consider some of the operational aspects of the systems in place for health and safety management that were evident during our field investigations; and also present our findings on the structures and procedures for consulting workers and representing their interests in health and safety in the terminals. The intention in adopting this approach is to afford some degree of comparability of experiences at the level of the terminals with those identified from the global scoping study discussed in Chapter 3. In that Chapter, we noted that the trade union respondents in our global scoping study, as well as being aware of conventional risks to safety, also shared additional concerns about the effects of work organisation and intensity on the health and well-being of workers. In the case studies we sought further information from managers, operatives and their representatives concerning these issues in the terminals in which they worked and how they responded to them. The following Chapter presents our findings, first from the perspective of managers, then from that of workers and their representatives, followed by a summary of the common features and the differences in these two perspectives.

5.1 Management perspectives

The management in all of the case study terminals had a far more developed approach for addressing risks to safety than they did for addressing risks to work-related health. This was true regardless of whether they were part of the Occupational Health and Safety Department or involved with operational management. The only exceptions to this general finding were found among the few personnel who were employed specifically as occupational health professionals.⁷

Commonly held views concerning the risks associated with working in the terminals were, predictably related

to those that arose from the interaction between workers and machinery, and especially between them and moving vehicles, in the terminal yards and in the operations of loading and unloading ships. Working at height was regarded as a serious concern along with the need to guard against falling objects. Slips, trips and falls were a further common concern, both in relation to working at height, on board vessels and on the quay-side. In some of the European terminals injury rates were discussed in terms of job category, where it was known; for example, injury rates among lashers, mostly in relation to manual handling, were far higher than those among other groups of workers and that of the average for the terminal as a whole. Truck drivers who were unfamiliar with the terminals were identified as posing a significant risk to workers in several terminals. Safety issues also arose in relation to working on board ships, where unsafe work practices and an unsafe workplace that were the responsibility of the ship's management and operation were not infrequent. Managers tended to discuss their perceptions of risks to health and safety at the same time as approaches to their prevention. Since a large proportion of such approaches were aimed at achieving improved safety behaviour through following safe working procedures and wearing personal protective equipment, the general orientation of managerial perspectives on the risks addressed by such preventive strategies was that they were the consequences of unsafe acts or behaviours by the workers involved.

In terms of risks to health, although less of a focus for managers, several were identified in common in most of the terminals. In case study E1, for example, health risks in relation to ergonomics and noise were acknowledged as serious by the company and particularly by the terminal's Safety Manager. Interviewees recognised that, although the GNT was providing relatively new technology and had invested in a number of technical OHS improvements (as well as in increased terminal surface maintenance), dock work was hard outdoor labour, which impacted on workers' joints in particular (through wear and tear as a result of physical labour, poor and sustained work posture, and bumps and vibrations). The Technical Department Manager said that technicians carried heavy tools and equipment up and down stairs, which was hard physical work. He referred to the redeployment of a technician to office duties because of back problems. He also indicated that working on reefers involved exposure to noise, both from cooling equipment and

⁷ As opposed to being safety management specialists

also from other machinery nearby. The Safety Manager in the same terminal said that noise at the terminal also arose from containers hitting each other or the quayside (i.e. steel or concrete) up to 40 times per hour. In addition, the straddle carrier alarms contributed to overall noise levels as they were set at 110dB in order for them to penetrate the surrounding noise. The main preventive strategy was the provision of earplugs, although their use was unpopular because workers found them uncomfortable and difficult to work with, especially because they could not hear their colleagues. There were plans to provide earplugs designed to enable wearers to hear speech in the future.

Changes to shift patterns were regarded as contributing to increased fatigue in Terminal E1, where it was regarded as a health problem which, according to the Safety Manager, should be identified by annual medical check-ups. Moreover, national regulations required the GNT to carry out risk assessments on the basis of these medicals, both as a prevention measure and also in order to plan the purchase of (compulsory) occupational health services. There were also alternative employment arrangements that could be made for dockers reporting sleeping problems as a result of their shift patterns. In addition, he was aware of other staff, such as planners and shift leaders, who worked irregular shift patterns and experienced health problems including sleeping problems, stomach complaints and diabetes. However, these problems were perceived to be difficult to address because the operation of the terminal was dependent on the arrival of vessels — which meant dockers often did not know very much in advance exactly when and how much they would be required to work. Even with legally mandated rest hours, rapid changes were hard to deal with, particularly among older workers. This problem was felt by the Safety Manager to be insufficiently acknowledged (either by the employers or by the unions — who perhaps also felt there was little operators could do about the necessity of flexible shifts) and he believed it to be as much the cause of early retirement among dockworkers as were the physical problems associated with dock work:

'One of the hardest things ... is the flexible shifts. A dockworker has no idea if he is going to work the next week or not, if he is going to work one day or seven days in a row, early shifts, late ones, three nights, three early. It is these differences, these jumps in shift hours, that is the hardest for the body. And older employees they have it much harder to stand these jumps. ... That is the problem. And that is the greatest bodily load and which is not recognized. It's not properly recognized by

neither the employers nor the employees. The employer must adapt to the ships.'

**Health, Safety and Environment Manager,
Terminal E1**

In case study E2, musculoskeletal disorders (MSDs) were also seen by employers, unions and the joint employment body for day-labour dockers (which was the dominant OHS actor) as the main health issues affecting many different kinds of operatives including lashers (through hard physical labour), crane, forklift and straddle carrier drivers (through poor working positions maintained over long periods of time), padders (through handling heavy objects such as twist-locks) and markers (who have one-sided computer work). Crane drivers were also exposed to severe vibrations dependent on their specific tasks, machines and the quay surfaces. Management interviewees mentioned various initiatives in place to address them. For example, the Operational Manager explained that quayside surfaces were checked regularly and maintained. The Technical Manager explained that his technicians get all the available lifting equipment to help them — an initiative of the GNT's local management. Replacement of plant with that which met better ergonomic design standards was also under discussion and examples were given of keeping a close watch on the results of trials going on in nearby terminals where straddle carrier cabs with supposed improved ergonomic design were being tested, with a view to ordering replacement cabins if they could be demonstrated to confer significant ergonomic improvements. Noise was an issue that the external OH service has raised at the port joint health and safety committee meeting because, in a similar way to that described above in Terminal E1, many dockers were exposed to high sound levels both from machinery and from containers coming into contact with each other and with the quayside. Similarly, working inside ro-ro's (roll-on roll-off vessels) was noisy. Again individually adapted earplugs were seen as a solution. Maintenance technicians were also acknowledged to face chemical risks. Other dockworkers also occasionally faced risks from leaking chemical containers on which there were clearly defined emergency procedures.

There was evidence of increasing recent interest in health issues in some of the European terminals that were the subjects of the case studies. In Terminal E3, for example, the Managing Director suggested that health was becoming more of a concern, with its inclusion within the terminal's objectives and mission statements as well as its addition to the safety policy within the last year:

'...as you'd expect in any organisation we've got policies and things we've got the safety policy which virtually it gets unchanged each year I think this year we did add the healthy part in.'

Managing Director, Terminal E3

However, this was not so much a concern with occupational health risks as a wider concern with sickness absence as a result of ill-health from any cause and return to work - including finding different roles and different patterns of shifts and/or working hours for people during the return to work period as necessary:

'... there's a big drive on getting people back into the workplace rather than sat at home, feeling ill, or sorry for themselves, getting back and as soon as we can..'

Head of Operations, Terminal E3

This emphasis on the return to work policy was confirmed by other interviewees, who referred to carrying out 'returned to work' interviews with workers after sickness absence:

'...when they return to work there's a 'return to work' interview which we have to conduct to go through a) they're ill, not their illness because that's to do with the doctors, but if it's going to be a recurring one for instance or is it family orientated, things like that.'

Interviewer: If it's going to impact on work?

'Yes basically.'

Workshop Superintendent, Terminal E3

A Terminal Supervisor explained that the Occupational Health Service provided access to support as needed, as well as facilitating early retirement through ill health as necessary. Interviewees made it clear that policies and procedures in relation to health were generally locally developed; suggesting that the GNT provided only a general reference to health and well-being, which allowed the development of local approaches. The terminal's Human Resources Manager confirmed that the HR and Safety Departments worked together both operationally (on areas such as risk assessments), but also more specifically in terms of occupational health to provide support for getting an employee back to work (attendance management):

'...comparing notes when we have work related injuries and things so that there is support from both sides to make sure that we get the employee back to work and support them.'

Human Resources Manager, Terminal E3

She felt there had been significant improvement in absence management over the last 5 years, with the previous system more geared to information 'in a format related to sick pay', whereas the current system could quickly identify reasons for absence which were either MSD or psychological and allow for early involvement and immediate referrals for physio- or psycho-therapy. Similarly, the Occupational Health Nurse described meeting monthly with the Safety Department to look at sickness absence, injury, critical incident and other data together. In addition, the HR Manager felt that the recording of this detailed information over time was beginning to allow the consideration of how these situations should be managed. She also stressed that management at the terminal were supportive of workers approaching them about mental health issues:

'...when management are approached ... there's a lot of support for support of people with any sort of a mental illness.'

Human Resources Manager, Terminal E3

Similarly, a Workshop Superintendent suggested that mental well-being was covered in regular medical screening:

'...they do generally chat and any problems, they're always there.'

Workshop Superintendent, Terminal E3

The HR manager indicated she had recently written policies on well-being and stress management, as well as a stress risk assessment⁸. This was a finding also reported in case study E4, where there was a health policy for the terminal which covered areas such as stress. However, as we discuss further below - the effectiveness of this inclusion in practice was a matter of some doubt.

In the two Asian terminals, managers identified broadly similar risks to safety as those in the European terminals, with vehicle safety and the interface between vehicles and workers being a prominent concern. Manual handling also featured significantly:

'...he was trying to open the lashing rod, a turnbuckle, actually he got his hand got bit with the turnbuckle under a rod, as a result of this he sustained a small fracture, so he was out of action for about a month or so.'

HSSE General Manager, Terminal A1

⁸ The stress management policy and risk assessment were based on the national regulator's guidance and publications on work-related stress.

Risks from working at height were commonly identified and while an Engineering Manager from one terminal claimed that no-one had been injured he suggested the reason for this were the safe practices introduced because of awareness of this risk:

'Nothing has ever fallen and hurt somebody not in our terminal at least.'

Interviewer: Why not?

'Safe practice always ... like people have like we know what tools we are carrying ... we've numbered them we count them ... we go on the QC [Quay Crane] when we finish off the work we again take a count of whatever tools and tackle we have taken all those are again put into a safe man cage and ... and brought it down properly safely so there's never an issue of something falling down or missing.'

Engineering Manager, Terminal A2

Some risks to the safety of the directly employed workforce arising from the activities of contract workers or from interactions with them were also mentioned, including the risk of abuse or even violence from workers who were asked to comply with safety procedures. Such matters were addressed firmly by the terminals' management and were likely to result in the dismissal from the terminal of the contract workers concerned.

Occupational health issues were generally less prominent among the perceptions of risks to workers that were identified by the management respondents in the Asian terminals compared with those in European terminals. Back pain was known to be problematic among crane operatives because of the nature of the job. One interviewee spoke of modification to seating and job rotation, which had reduced complaints from operators:

'...we have modified their seating ... and we are relieving them after four hours we are giving ... relax time to them ... so now the complaints coming from the operators are very, very less.'

Assistant Safety Manager, Terminal A2

Others mentioned workers being subject to toxic gases from vessels, and exhaust fumes from vehicles and one example of a monitoring device for carbon monoxide installed in quay crane (QC) trolleys was mentioned. Fatigue among crane operatives was also mentioned as an issue. It was addressed by organising job rotation arrangements among the teams of crane operatives, or by relieving them after a fixed period as above, in order that they did not become fatigued from spending too long in highly demanding intensive tasks. Occupational

stress among these operatives was addressed in the same way. Crane operators, for example were seen as having rotation arrangements that were both effective and significantly better than those of their colleagues in nearby terminals:

'...in the other terminals they still work for eight hours ... we work one only three hours we are operating only three hours so then there is no question of stress because comparatively less than 50% you can sit 30% of the operative people only are doing so there is no question of stress.'

Operational Trainer, Terminal A1

In addition, as a contribution to both stress management and treatment for MSD, workers were offered various facilities for undertaking yoga in their free time.

Welfare facilities were acknowledged as being required by regulation, including rest- and wash-rooms, lavatories and canteen facilities, but there appeared to be little perception among managers in either of the Asian terminals that the facilities they provided were anything other than adequate and no concerns expressed that the health or well-being of any of the workers on the terminals, whether employed directly or through contractors, might be improved by better provision for welfare. Instead it was claimed that adequate facilities were provided, although it was acknowledged that sometimes, separate arrangements were made for directly employed workers and contract workers.

The most prominent response of managers to questions on occupational health addressed provisions in place for medical checks on workers. Managers in both terminals were aware of these arrangements. They involved pre-employment checks and periodic follow-up checks, with a greater frequency of the latter for older workers. In one of the terminals, managers indicated that results from these medical check-ups could be used to help identify workers who might benefit from being provided with health promotional advice when found to be suffering from particular conditions:

'...we are giving advice by the well-known doctor advising them so for example the people suffering from diabetes hypertension and cholesterol ... we are advising them any refresher trainings that are taken so main part of the health and safety policies we are explaining them how this policy ... beneficial for you and your family.'

Assistant Safety Manager, Terminal A2

However such medical monitoring did not appear to be used in any systematic way to identify occupationally related conditions.

In accordance with the law, pre-employment medical checks were also applied to contractors' workers through contract requirement:

'...we are very clear about what is required of safety and health ... for the contractors, before they enter into our terminal, they have to undergo pre-medical check-up with authorised medical agency ... and they produce a fitness, then they are allowed inside.'

HSSE General Manager, Terminal A1

Here again older workers were subject to more frequent on-going check-ups with individuals under 40 years required to undergo a medical review every two years, increased to annually for those over the age of 40.

The Dock Safety Authority was said to have a list of registered doctors and institutions that undertook these medical checks. An interviewee for one port spoke of a Clinical Diagnostics Centre registered with the Dock Safety Authority as being a place where medical examinations were conducted for employees. It was not clear whether the same facility was used for the workers of contractors.

Clearly, in terms of more general health, the provision made for medical checks was significant. There were some indications that the terminals went further than this in their concern to maintain a healthy workforce:

'...we provide some kind of training to the individuals on yoga, to keep them fit, so at that point we conduct eye camps, eye check-ups we conduct and we conduct dental camps, so various health related camps which we organise for the people ... that is applicable to all the people in the terminal ... it's a social responsibility ... we do it without any charging them.'

HSSE General Manager, Terminal A1

Here again however, there does not seem to have been any systematic linking of these activities with occupationally related causes of ill-health.

5.2 Worker perspectives

As with the managers, safety risks dominated the perceptions of worker respondents concerning the

risks of working at the container terminals. Working at height, falling objects, slips and trips, lashing, moving machinery, poor quay side and terminal yard surfaces, vehicle safety and in particular, risks presented by the activities of external truck drivers who were unfamiliar with the terminals, as well as issues concerning the provision and replacement of adequate personal protective equipment, were mentioned. Generally there was a widely held perception, especially evident in the European case studies that under the safety management systems in place in the terminals, safety procedures were implemented effectively and a shared commitment to working safely and following procedures designed to enhance safety was experienced by the directly employed workforce and their management alike. However, there was a concern both in the European and Asian terminals that the safety management system and the procedures in place to implement it, really only addressed part of the problem of health and safety at the terminals. There was a frequently articulated view that, by its nature, the approach failed to uncover the underlying causes of injuries and especially those of ill-health at the terminals. As a worker in one of the Asian terminals put it:

'...safety is important at the time of safety, whereas work is important at the time of work – they do not overlap.'

Crane Operator, Terminal A2

With regard to the health issues that were commonly perceived to be the consequences of this, the range covered was similar to that presented by management respondents, but the level of concern about them and detail of how they were experienced was greater in the information provided by workers and their representatives. MSDs among crane-operators and vehicle drivers were mentioned frequently. The commonly held view among the crane operators for example, was that:

'...you have always got back problems and that down here because basically you are upward and looking through your legs.'

Senior Shop Steward, Terminal E4

MSDs were not restricted to crane divers, with vehicle operators also complaining of them, along with gastrointestinal complaints and other problems associated with vibration, intensified work, poor ergonomic design of vehicle cabs, in some cases poor vehicle and road surface conditions. One European terminal worker described having hurt his back because he hit a pot-hole while operating a forklift truck. On return to work after two weeks he was asked

how a repeat of the incident could be avoided. He suggested improving the quayside condition, but:

'...his response back to me, which I still cannot believe that he said it, was "Memorise where the potholes are and drive around them." Not a case of yes we will get to fix it or yes we will look into your request to cover that. Memorise where they are and drive round them. What are you expected to do?'

**Tug Driver and Safety Representative,
Terminal E4**

Workers in the Asian terminals complained about the poor quality of some of the vehicles being used in the port, while their representatives explained that vehicles were designed to pull much lighter loads but were used to move heavy containers because the cost of replacement trucks was prohibitive:

'...a TT [trailer truck] is designed to carry only 30 tons of load but when they transport two 20ft containers the load often go up to 75 tons. This makes the vehicle rattle.'

Senior Union Official, Terminal A1

Discussion of possible solutions to the causes of MSDs was reported to have taken place at various levels in some of the European terminals, including at the joint safety committee and with the involvement of the Occupational Health Services. Job rotation schemes were seen as possible solutions (as they also were in relation to fatigue and stress discussed below), but while workers and their representatives felt that such schemes had strengths, their weaknesses were also recognised and discussion on their implementation was on-going.

Wind speeds and crane operation were a source of concern. Examples of new company safety procedures being introduced in the European terminals to reduce the risks involved in working in windy conditions were discussed. Generally they involved stopping work when wind speeds reached levels regarded to be dangerous, which could be identified by warning displays in the crane cabs. While the operatives welcomed these developments, they were at the same time concerned that managers would insist on work continuing until the danger thresholds was exceeded, with the further problem of leaving workers stranded:

'An amber light appears at 40mph, a red light at 45. They still try to push you to go up if it is 42, 43 mph. It is down to you to say no but they do try to force you to do it. And a couple of occasions I have been up in the frame and it has come to 45 mph, so the crane driver has

to stop. So he can't come back. He has to put me on the top of a stack and be up there for an hour or two, until it is safe for him then to bring me back, which I think is not good. From that point of view, you don't really want to be left up there that long.'

**Crane Driver and Safety Representative,
Terminal E4**

Workers were also aware of risk posed by excessive noise at the terminals and in some of the European terminals they reported that this was being addressed with instructions to crane operators to set down containers more softly and through the issuing of ear defenders that would allow the frequencies of human speech to be heard, while still filtering out excessive noise. There were mixed views on exposure to hazardous substances, with many operatives feeling that they were not exposed routinely but may be at risk in cases where damage to containers had occurred. Here there was real concern about the uncertainty of what was in many containers and the possibility of accidental exposure to dangerous substances as a result. Other examples of exposure to hazardous substances in the work environment occurred when dockers were required to work in the enclosed spaces on certain categories of ships, such as ro-ro's, in which vehicle exhaust fumes were a problem.

Fatigue was a widely acknowledged health problem in all the terminals. It was said to be caused by shift work and it was reported especially in relation to night shifts - about which, one worker in a European terminal, said:

'People falling asleep at the wheel can easily happen. I have seen it happen ... I mean what is it about 3 weeks ago I was driving down the quay and I waved at somebody and realised they were asleep.'

Tug Driver, Terminal E4

Workers gave further examples of particular night-shift patterns being especially tiring. However, among the dockworkers, fatigue was also associated with long hours, the pace and intensity of work, as well as the physically demanding nature of many of the tasks involved. Workers engaged in the complete spectrum of terminal activities, including those operating cranes and trucks as well as those engaged in lashing, experienced it. Several interviewees in the European terminals suggested that it was a consequence of reduced manning levels in the terminals in which they worked, which required them to work harder, longer and more flexibly than previously — all of which contributed to their increased fatigue. While in the Asian terminals workers said they feared losing

payment incentives if they failed to work quickly. This meant many workers did not take breaks, and in relation to loading and unloading containers, that they were effectively required to work outside specified standard operating procedure (SOP):

'The written procedure states that workers should operate 10-12 moves per hour as per the SOP but the managers want us to make 20 moves per hour –they never tell us the rate to aim for ... they only say do more, more and more and keep tempting us with incentives'

Crane Operator, Terminal A1

Others commented that close to sailing time their work was more frantic and so they had to be:

'...extra careful. Everyone is rushing, sometime we see tugs coming and pilot coming so we have to hurry up.'

Lasher, Terminal A2

And that although work was always intense, this increased when there were ships alongside:

'...more work and more stress ... it's still the same, we go faster.'

RTG Operator, Terminal A2

Speed was not only required in moving containers but had repercussions elsewhere in the terminal too. Another interviewee talked of the experience of gate assistants, whose job is to inspect containers at the gate to the terminal and report any damage. They were reported to be at risk of being hit by vehicles as they try to carry out their inspections:

'...when the TT drivers are pushed to work fast ... the inspector risks being hit by the vehicles as they are all queued up and eager to rush into the port premises ... one gate assistant was hit by the TT car from behind. The gate assistant got injured (fractured) and had to be hospitalised for seven months. Unfortunately, nothing much has improved since.'

Crane Operator, Terminal A2

Work related stress, as well as fatigue, was perceived to result from periods of intensive operating activity and from shift work, exacerbated by the unpredictable arrival times of ships and the requirement to achieve a fast turnaround. Coupled with issues of work-life balance associated with unpredictable shift patterns, it was regarded as leading to sickness absence among workers:

'I have got a lot of people who are going off now with mental health issues and all these other sort of related issues.'

Senior Shop Steward, Terminal E4

In some of the European terminals in particular, workers were aware of management initiatives to provide counselling and advice in relation to stress and other psychosocial issues. Although such initiatives did not tackle the cause of these problems at source, they did provide workers with a valued sense of 'being looked after' by the company. In contrast, often in the same terminals, managerial approaches to changing the organisation of work, in combination with what was perceived to be an increased expectation of 'flexibility' among workers was widely resented and regarded as a significant cause of both stress and fatigue. The practice of monitoring the productivity of workers adopted in some terminals was also perceived to encourage risk-taking behaviour, with for example, drivers 'cutting corners' to increase their productivity levels.

A noticeable difference between managers and workers was evident in relation to provision for welfare. While management respondents did not appear to regard this as a significant issue in any of the case study terminals, workers were more concerned. In one European terminal for example, the poor quality of the mess area for workers was contrasted with the frequent refurbishment of the management offices:

'...where money comes into it, tend to spend it on themselves.'

Senior Shop Steward, Terminal E4

The frequency with which mess areas were cleaned was a further cause for concern. Some regarded current practices of contracting out the work as resulting in cleaning being carried out less frequently. In a terminal that routinely operated seven days and nights each week, one interviewee said:

'...you will go in on a Friday and they will clean it and then you might not see them until the Monday.'

Senior Shop Steward, Terminal E4

Other operatives in European terminals were unhappy about lavatory facilities. One crane driver explained that for him, the nearest toilet could be nearly two miles away, with just three toilets provided for approximately 400 workers:

'So, if I really need to go, you can call up and you can ask the supervision ... but very rarely, because you are then going to have to stop

the crane from working. So if you are 15 minutes or 20 minutes going to the toilet that crane is not working for 20 minutes. They don't like it ... they generally don't like us stopping and going to the toilet.'

Crane Driver and Safety Representative, Terminal E4

However it was on the Asian terminal on which there was most concern among workers about poor facilities for welfare, especially among contract workers. Here the combination of poor welfare facilities and pressures to work continuously often meant there were perceptions that there were no possibilities for workers to take comfort breaks or go to a mess room to eat, unless they had themselves first arranged for another worker to replace them. One worker reported being told by a contractor:

'...we don't get enough money to give you a break. You have to arrange among yourselves. But how many can you relieve when the total lunch hours is only for two hours? As the TTs should never sit idle every day only around three people get the chance to eat in the canteen.'

Contract Truck Trailer Driver, Terminal A1

While a supervisor was said to have received instruction from the control tower to:

'...call the TT driver back to work — the guy has been in the toilet for too long.'

Contract Supervisor, Terminal A1

Lack of welfare facilities, along with the practice of demanding continuous work, meant that:

'...mostly workers end up having their meals in their vehicles. We bring [food] from home and eat cold food sitting in the hot truck cabins'

Contract Worker, Terminal A1

Welfare facilities for contract workers in the two Asian terminals were especially limited, indeed it was an aspect of contrast between contract workers and those who were directly employed, causing the latter to regard themselves as considerably better provided for. As one such worker commented:

'...we've got more facilities than them, as we are permanent ... like better services ... the salary is better, and medical facilities also there ... restrooms, rest rooms, canteen.'

RTG Operator, Terminal A2

5.3 Summary

Perceptions of risks to safety and health in all of the terminals showed several features in common. Both managers and workers tended to focus on risks to safety rather more than they did on those affecting either health or arrangements for welfare. It seems likely that this focus was at least in part testimony to the effects of efforts to raise awareness and improve safety culture which were strongly in evidence in all the terminals visited and which were embedded in the nature of the safety management systems in operation in all the terminals, which as we will discuss further in the next chapter, were all strongly orientated towards improving behavioural safety. All these systems had their origins at the global level of the companies and, as well as being firmly directed towards safety instructions, procedures and reporting systems, they were dominated by the delivery of indicators of improved safety. It was not entirely surprising, therefore, that the consciousness of safety risks at the terminal should to some extent reflect the focus of the awareness raising strategies employed within approaches to implementing safety management systems at the terminals.

The nature of the safety risks identified was also similar between terminals and (if the findings from Chapter 3 are recalled) they were generally those that might be anticipated globally. Thus, the man/machine interface was a concern, and especially that of contact between workers and moving vehicles and other machinery in the terminal yards and quays, as was working at height and falling objects. Injuries resulting from slips, trips and falls were among the most frequent in the terminals as evidence in Chapter 3 attests and therefore it might be anticipated that there would be awareness of these hazards along with risks associated with manual handling. It was widely accepted among workers and managers alike that dock work involves hard and heavy physical activity. Awareness both of the risks of short-term injury, especially from manual handling, and of longer-term general physical wear and tear was embedded in responses from both workers and managers. Hazards presented by the weather and by the activities of workers such as those of contractors who were working on the same terminal were also identified in common.

While work-related risks to health did not feature as prominently in the views of managers as they did in those of workers, the hazards to health that were mentioned included several in common. Thus, both managers and workers referred to fatigue and stress arising from the pace and unpredictability of work patterns for many of the workers who were involved in

the loading and unloading operations on the quays and also for those indirectly affected by the need to accomplish these operations in good time. In addition, they both referred to the prevalence of musculoskeletal disorders among crane operatives, although workers were also concerned about the health effects of vibration, poor ergonomic design and the quality of vehicles involved in much of the transporting and stacking of containers that went on in the terminals. Both workers and their managers also shared awareness of other health hazards such as those arising from noise, chemical fumes and the potential of accidental exposure to toxic substances as a consequence of damage to containers.

While they were aware of similar possible risks to health, there were some differences between the perceptions of workers and managers in this respect. Concerns for the effects of their work on their health were more prominent in responses of workers and their representatives than they were in those of managers and virtually all the worker respondents attributed their concern to the pace and unpredictability of work at the terminals. Moreover, they regarded the drive towards achieving greater productivity at the terminals as responsible for increased work intensity thereby contributing to greater risks to their health. They were generally unimpressed by the capacity of the safety management system to address these issues, indicating that it was all very well in its way, but focusing on safe behaviour and safe working practices was failing to deal with the underlying reasons why work at the terminals was risky. To paraphrase the Asian worker quoted previously, they felt 'there was safety and there was work' and the two were only partially related. While all of the respondents were aware of the drive towards an improved safety culture in the terminals, workers clearly saw an inconsistency between this drive, which they felt was to a great extent focused on regulating their behaviour, and the parallel drive towards increased productivity. The latter strategy they believed served to override, and limit the effectiveness of, moves towards increased safety.

Outsourcing of operational activities within the terminals was especially pronounced in the Asian terminals (although European workers and representatives were aware of its potential). It had resulted in a substantial presence of outsourced workers in the Asian terminals and had created a strong sense among the directly employed workers of their better pay and working conditions relative to these outsourced workers. It also led to a belief that workers employed by the contractors who were undertaking these various outsourced activities within the terminals were not enjoying the same standards of

protection of their health, safety or welfare as those of the directly employed workers, and the view that risks to others arising out of their activities were not managed to an appropriate standard by many contractors. This led directly employed workers to sometimes regard the contractors' workers as themselves potential safety risks.

Among the respondents who were outsourced workers or their representatives, there was a strong sense of their exposure to work-related risks from which they believed they could be better protected. This applied across the whole range of their activities, from the plant and machinery they were required to operate, the pace at which they were expected to work, the provision made for the supply of protective equipment to them and the arrangements for their welfare to which they had access. At the same time they frequently regarded themselves as especially vulnerable to scrutiny from safety supervisors and management within the terminals and felt their employment was more insecure as a consequence.

In the European terminals outsourcing of mainstream terminal operational activities was less common; however where it was used, outsourcing was generally regarded by workers as a cost-cutting activity on the part of the company and seen as resulting in poorer quality outcomes, which could have negative impacts on health safety or well-being.

There were also different attitudes to welfare facilities for workers at the terminals. For managers, the provision of welfare facilities was felt to be adequate and not an issue that was perceived to be problematic. But workers in all the terminals expressed varying degrees of concern about these arrangements and their access to them. Such concern ranged from a sense that canteen and rest facilities were inadequate and that resources devoted to workers welfare were less of a priority than those for managers, to more serious concerns about how pressures of maintaining work-rates prevented adequate rest and relief for the affected workers. In the Asian terminals the perception of a contrast between welfare facilities enjoyed by the directly employed workforce and those available to the workers of contractors was a subject frequently raised in interviews with both categories of workers and by their representatives. There was a vivid sense of the difference in the facilities available to these two categories of workers, with some groups of contractor workers, such as lashers, frequently mentioned as experiencing very poor support for their welfare.

Finally, in some of the terminals, there was evidence that managerial perspectives on the health of workers had broadened to include greater attention to 'health

at work' as opposed to solely focusing on work-related health. This meant that as well as continued attention to monitoring the generic health concerns of the working age population, such as hypertension, diabetes and so on, during routine medical examinations, greater strategic attention was also being given to addressing health promotional activities as well as, to some extent, more support for health counselling. In the European terminals especially these approaches had recently become more strongly linked to issues of absence management and return to work. Thus, managers' vision of workers' health mixed work-related health issues with those of the wider working age population. It was not entirely clear from the interviews what the overall effects of this recent orientation might be on the capacity to manage the prevention of work-related harm at the terminal. There were some signs that it may have had positive features, in as much as, for example, it probably helped facilitate a greater willingness to address mental health issues such as stress and fatigue, if they were shown to lead to significant absence as well as to require particular support in terms of return to work. It could also be helpful in the reallocation of job tasks for workers who suffered MSDs and, more generally, collation of data on these issues may also in time lead to stronger evidence for the need for more robust prevention strategies to address them. However, a downside of this orientation noted in interviews with workers was the added sense of increased 'surveillance' they felt and a concern that linking

financial rewards to absence performance thresholds (which had been practiced in some terminals), was unjust and punitive.

In short, there was a gap between the perceptions of health and safety risks and arrangements for welfare in the terminals shared by worker respondents, and those held by managers. Behind this gap there was a difference in the extent to which the management system for supporting the health, safety and welfare in the terminals was regarded as central. For the managers, it seems that the safety management system was the effective central means of addressing health and safety issues in the terminals thus achieving improved health and safety outcomes. For the workers, however, the safety management system was too narrowly conceived and peripheral to the main causes of injury and ill-health at the terminal. Because it did little to address these main causes (which were deeply embedded in the business model that informed the operation of the terminals), they did not regard it as of central significance in the prevention of harm to their health and safety and therefore by definition it was only partially successful in this respect. In the following Chapter we will explore the details of the arrangements in place for managing health and safety in order to both better understand their significance in preventing harm to workers and in supporting their well-being and also to seek an explanation for the differences in perceptions observed in the present chapter.

6. Case study findings: Health and safety management systems and arrangements

Interviewees in each of the case study terminals gave detailed descriptions of the systems, arrangements, practices and procedures in place for managing health and safety. This Chapter presents some of that detail in relation to: health and safety management systems and arrangements; and provisions for monitoring their implementation, as well as workers' compliance with them. It then considers the extent to which contract workers were covered by the terminals' health and safety management systems and arrangements, before turning to interviewees' perceptions of the drivers of the arrangements in place for managing risks.

6.1 Health and safety management systems and arrangements

The arrangements and systems in place for managing health and safety in each of the case study terminals all contained elements including: documented risk assessments, methods statements and standard operating procedures; accident and incident reporting systems; the implementation of targets for reported injuries; and regular meetings in relation to health and safety at various levels. In general, the Terminal Manager (or equivalent) held overall responsibility for the health and safety of workers, and each terminal's Safety Department played a pivotal role in the development, implementation, monitoring and review of their health and safety management systems and arrangements⁹. These Departments were also the formal link between the terminals and their parent GNTs in relation to safety both regionally and globally. This was a two-way process. Safety Departments implemented policies and procedures from the GNT; and in addition they acted as a hub for information by inputting and downloading, and by distributing, safety performance information to and from the global intranet.

The health and safety management arrangements generally followed a fairly standard model, in particular

⁹ The first European area differed somewhat as a result of its national employment and labour relations' arrangements (see Chapter 4). In the case of Terminal E2 in particular, this meant that the port employment body played a dominant role in OHS management arrangements by producing mandatory health and safety management policies and detailed risk management plans, as well as safety rules for specific areas and jobs across the whole port.

in their foundation on strongly behaviour-based approaches to health and safety management. There was evidence of locally produced posters and slogans in the terminals, together with heavy emphasis within the safety management systems themselves, on achieving behavioural changes towards safer working practices among the workforce and inculcating a 'safety culture' at all levels within the organisation of the terminals.

'If we can change people's behaviour you've won so that that that's, a that's a sort of huge way forward.'

Managing Director, Terminal E3

In fact, attempts to develop a safety culture even extended beyond the workplace in Asia.

'I think that one of things that we are also doing is now taking safety beyond the terminal gates. We've had some initial work done in terms of taking it to the homes and the children of people who work here, so at least from that perspective there's on-going dialogue in their homes about what safety is all about, whether that means switching off electric points or crossing the road or whatever it is, little things.'

Terminal Manager, Terminal A1

Many interviewees suggested that the locally developed, adapted and implemented behavioural safety systems had their origins at the global GNT level. For managers, this behavioural foundation was pivotal because, in their view, the procedures and systems in place in the terminals were such that if everybody followed them there would never be an accident:

'...accidents happen because of lack of concentration or just making a mistake.'

Managing Director, Terminal E3

'...across all industries 96% [of accidents] are caused by some sort of on-site behaviour.'

Safety Officer, Terminal E3

However, worker and workers' representative interviewees, particularly within the European terminals, expressed concern about the management emphasis on behavioural safety. For example, in Terminal E3 interviewees felt that the GNT globally was

of the view that all accidents and fatalities had behavioural causes:

'...every accident can be avoided is the one they say, it's normally down to someone not behaving properly, nothing to do with the company we've done everything we can, it's all your guys' fault.'

Senior Shop Steward, Terminal E3

Turning to the detail of the health and safety management systems, in general all operational activity was covered by risk assessment. For the most part, these risk assessments were reviewed following an incident or any change in operational procedure, though interviewees in Terminal E3 described additional rolling review processes for all risk assessments. Risk assessments formed the basis from which areas that needed to be covered in the terminals' safety procedures and systems were identified.

In keeping with perceptions of the most significant risks, in all of the terminals a hierarchy of safe working strategies had been identified in which the risks associated with the operation of machinery and with man-machine interfaces were recognised as among the most important and for which standard approaches to risk minimisation were applied (i.e. avoidance, for example, introducing pedestrian free zones, carrying out repairs in the workshop rather than in-situ and/or stopping work completely around the repair site; and, where avoidance was not possible, risk reduction, for example job rotation, regular maintenance inspection and adherence to PPE requirements).

'... if you can take the man away from that situation it's better.'

Safety and Security Manager, Terminal E3

Interviewees from all terminals also referred to many specific safety practices and measures within various broad groupings aimed at managing risks. These included, for example: technical measures, such as the provision of cages and harnesses for those working on top of containers; procedural measures, such as always carrying out lashing in pairs; measures relating to environmental conditions, for example, stopping work at specified high wind speeds; and infrastructural measures, including maintenance of terminal surfaces and the provision of ergonomic equipment. Several of the management interviewees stressed that a number of these measures involved significant cost, in terms of financial outlay but also, in some cases, in relation to reduced work speed and consequently productivity – something that was considered worthwhile for the

sake of safety – and emphasised that their GNT globally had no limits on their safety budget:

'...for them they are health and safeguarding people you don't have any cost control you can spend any amount.'

Assistant Safety Manager, Terminal A2

Systems for recording and investigating incidents, injuries and near misses were also described. In general, all of these data were added to both local and global databases, and were used by the GNTs globally to set terminal level performance targets on accidents and injuries. In the case of GNT C, this had recently been extended to a new global level KPI on near misses which stipulated that all the GNT's terminals had to report at least as many near misses as lost time injuries each year.

In each terminal, these health and safety management arrangements were supported by training of two kinds: induction training; and on-going or refresher training. In general, induction training was relatively structured and systematically administered. On-going training, on the other hand, varied significantly from terminal to terminal. At terminals E3 and A1, for instance, the whole workforce received on-going training every two or three years. However, elsewhere, on-going training was provided through the dissemination of safety practice information (for example during toolbox talks and pre-shift briefings) on specific risks and solutions as necessary.

At each of the case study terminals, managers were vocal about and committed to delivering the zero tolerance approach to lost time injuries that was the stated aim of the safety policies of their global parent companies. This reflected the arrangements' strong emphasis on safety in comparison to health. In addition, there was a widespread confidence among managers in the arrangements' effective coverage of the key risks faced by workers. Those at terminal E3, for example, described being visited by others wishing to learn from them. This was a reflection of the widely held view that:

'...in [European country] we're quite at the forefront of leading safety.'

Head of Operations, Terminal E3

Workers and their representatives were in agreement with management interviewees about the detail of the health and safety management systems and arrangements. They also generally felt that the arrangements were appropriate and effective in the areas that they covered. For many, they represented a significant improvement over recent years, with

practices which were not breaking any rules in the past now seen as unsafe and no longer carried out:

'...when I started here there was a, they used pedestrian gangways, but after two or three years back they stop all pedestrians and used shuttle bus.'

RTG Operator, Terminal A2

In addition, many interviewees expressed pride in their terminal and its safety systems and performance:

'...we're definitely up there ... obviously one of the safest.'

**Terminal Operator and Shop Steward,
Terminal E3**

However, workers and their representatives also had concerns about the health and safety management systems. These were apparent in two areas, both of which reflected implications for workers' health as well as their safety. First, workers and their representatives, particularly those in the European terminals, were concerned that aspects the health and safety management systems themselves limited their impact and effectiveness. For example, while managers and workers agreed that under-reporting of near-misses was relatively common, and further that feedback and action taken in response to near miss reports were significant drivers of reporting, some workers and their representatives also felt that the near miss reporting systems themselves contributed to under-reporting. This was because they did not allow for reports to be completed during work while incidents were fresh in the mind, and in a way that avoided:

'...dobbing your mates for doing something silly.'

**Terminal Operator and Safety
Representative, Terminal E3**

Similarly, there was concern that investigations of incidents and accidents, including near-misses (and non-compliance – see section 6.2 below) rarely went deeper than the immediate situation, the proximal causes of the accident or incident (in terms of time, place, equipment and machinery, any technical or mechanical faults etc.) and the actions of those directly involved. Consideration of any systemic causes of, or contributions to, any failings did not seem to be part of the process.

Workers were also concerned about the reach of some aspects of the extent of the health and safety management systems and arrangements. These concerns arose in two broad and closely related areas: the structure and organisation of work – and

consequent pressures; and the priority afforded to safety. In this regard, some interviewees referred to their shift patterns and arrangements, suggesting that breaks were too infrequent, particularly when working in poor conditions (such as excessive heat, noise, or fumes):

'...You are basically in a greenhouse; it is not a comfortable thing. People think because you are sitting down you are not doing much but the conditions you have to work in are, do get you down.'

**Crane Driver and Safety Representative,
Terminal E4**

Similarly, in Terminal E1, there were on-going concerns about management hiring insufficient numbers of workers for the job resulting in excessive workloads, particularly for lashers:

'The firm does badly. They can't do anything but try to save money. So what do they try do to make as much profit as possible? What do they do? Instead of hiring six lashers they order four. And four lashers must do the same as six. ... And if that is the cause [of increased risks] that I don't know but it can be so ... we have no minimum-manning that we can force the firms to follow.'

Union Representatives, Terminal E1

Concerns about work pressure were apparent in a number of other areas too. For example, many were aware of substantial pressure to keep the shift moving because of financial pressures:

'...one of our safety managers ... said ... that safety should never compromise productivity and cost.'

**Tug Driver and Safety Representative,
Terminal E4**

'...our safety manager, one of his favourite phrases is, "They are our biggest customer". To try and get you to bend the rules slightly.'

**Crane Driver and Safety Representative,
Terminal E4**

To illustrate this further, the interviewees at Terminal E4, for example, described situations in which berth operators were being asked to start dropping a vessel's hatch as it was still tying up to the quay at night, before a safety net was in place and without any lights. They went on to explain that situations such as this would, if questioned, be justified by managers saying that a dynamic risk assessment had been carried out.

However, some worker representative interviewees were concerned that:

'...There is this massive grey area with dynamic risk assessments which we are not sure how to tackle ... because I believe there is these managers, team leaders or whatever you want to call them, who believe that they need to keep the job going and they are relying on or they are hoping that the workforce don't report them.'

Convener, Terminal E4

Interviewees from this terminal were also concerned about the absence of formal on-going training related to safety. The Convener explained that although management recognised the need for training it was seen as too expensive:

'...they do recognise that there is a need to do it there is a need to do it ... they will say "how do we, without affecting operations, how do we get those individuals off the shop floor in work time without it costing too much money".'

Convener, Terminal E4

In addition to these kinds of concerns raised by those in the European terminals, interviewees in the Asian terminals expressed perhaps even greater concerns about the priority given to safety. For example, their view was that the Operations Department prevailed over the other Departments and particularly over the Safety Department:

'...the ops personnel get their way as they have the upper hand. So safety gets compromised.'

Crane Operator, Terminal A1

Similarly, some felt that a number of elements of safety practice were there 'for show' rather than to be adhered to, for example, speed limits and PPE. In relation to speed limits, interviewees explained that they were ignored because workers were frequently told:

'...to speed up to complete their task as swiftly as is possible not as safely as is possible.'

Contract Truck Trailer Driver, Terminal A1

In addition, there were wider concerns about PPE, with some interviewees suggesting that it was inadequate and was often not provided at all.

'We complain about our PPEs – it takes months for them to take note. Sometimes

nothing happens. Last year we were given very poor quality rain coats. We complained but nothing happened for months. By the time we received better quality rain coat the rainy season was over.'

Contract Gatekeeper, Terminal A2

Furthermore, workers and their representatives at these terminals suggested that written standard operating procedures stated that workers should operate at between 10 and 12 moves per hour, but managers wanted them to make 20 moves per hour. If workers followed the procedures, it was estimated that the terminal could handle around 120,000 containers; in reality, however, 175,000 containers were handled.

6.2 Monitoring, compliance and incentives

Each of the case study terminals also had a number of systems in place for monitoring the implementation of the health and safety management systems and procedures, and workers' compliance with them. These included both external and internal monitoring systems.

Externally, terminals were inspected by their GNT globally on a regular basis (ranging from annually to every three years)¹⁰. In addition, all OHS performance and management data were uploaded to the GNTs' global databases, with managers explaining that they received reminders from senior colleagues at the global and regional levels if actions allocated to them in relation to incidents were not carried out on time. This worked both ways, with interviewees also able to use these systems to ask for advice from colleagues in other terminals.

Several management interviewees in both Europe and Asia also referred to monitoring in relation to their terminal's efforts to obtain and then retain international standards (such as BS OHSAS 18001¹¹). In addition, interviewees at terminal E1 explained that their GNT had recently carried out a regional safety culture survey; while those at terminal E3 described a reciprocal peer review process with staff from other terminals which allowed them to consider how terminals were operating:

¹⁰ The exception to this was terminal E4, however, which was not monitored in this way for safety; rather, all visits by the GNT globally focused purely on operational matters.

¹¹ BS OHSAS 18001 is part of a series certifiable 'standards', the purpose of which is to help organisations create management systems and to demonstrate to their stakeholders that the organisations concerned have introduced management systems which have a set of required characteristics.

'...against the [GNT C] model if you like, so you all work under the same guidelines, and you all have the same safety rules, and then you judge each other by it.'

Head of Operations, Terminal E3

Some terminals were also externally monitored by the regulator. In the European terminals, both management and worker interviewees described this as rather more reactive than proactive, which many felt was a reflection of the successful policies and procedures at the terminals. Workers' representative interviewees in the first area of Europe also described receiving some support from the regulator, but felt that inspectors' time was often restricted, limiting the level of support available. However, their colleagues from one of the terminals in the second European area suggested that:

'...they [the Regulator] cosy up to management too much or to the company too much.'

Convener, Terminal E4

In the Asian terminals, management interviewees made it clear that regulator visits were more frequent and proactive than those described by their counterparts in the European terminals. Interviewees in Terminal A1, for example, explained that the regulator is based at the port for three days a week and has a monthly inspection round at the terminal. Similarly, Terminal A2 received monthly inspections which were carried out by the regulator without advance notice. However, workers and their representatives in these terminals were generally unsure of any external monitoring procedures by either the GNT or the regulator, though some felt that a regulator might visit perhaps once a year.

Internally, management interviewees at Terminal E3 referred to their own audit system and to checks made on compliance with legal requirements across the terminal (e.g. COSHH compliance). This terminal had also recently introduced a safety observation system, in which all managers had to talk to workers and carry out a series of observations in prescribed areas using a checklist. Interviewees explained that the aim of this process was threefold:

'...managers are seen, we're out there, we're taking it seriously, you know, we're not just playing; having other managers looking at it ... so it's a different pair of eyes; other managers from other departments get to see what really goes on. So it raises their awareness of the business.'

Head of Operations, Terminal E3

Similarly, at Terminal E2 management had appointed two safety advisors to monitor dockers' compliance with safety procedures, and at Terminal E1 all managers tried to get out and observe safety some of the time. At Terminal A1, a list of unsafe practices specific to each job had been drawn up, with a series of increasingly severe consequences for those seen engaged in any of them:

'...so we have said these are all the unsafe practices if it is found by any of the individuals that they are not doing this one, he will be booked under the consequence management system.'

HSSE General Manager, Terminal A1

These kinds of approaches to monitoring were effectively an extension of the more much informal approach widely used in all the case study terminals in which supervisors were simply present on the ground observing work and intervening as soon as they saw any non-compliance. Monitoring of this sort was supported at all terminals by the encouragement of workers both to make suggestions in relation to safety and to intervene (and if necessary report) on seeing unsafe behaviour anywhere on the terminal (i.e. among colleagues, contractors or visitors). Other approaches to compliance monitoring were more technological. For example, CCTV was used at Terminals E3 and A1, while straddle carrier alarms, monitoring stability, were used at Terminals E1 and E3.

Management and worker interviewees felt that compliance was generally good. However, some workers and their representatives in the European terminals in particular were also concerned that, in instances of non-compliance, there was no investigation of why people had not stuck to the rules (see section 6.1 above).

In addition to compliance monitoring procedures, several worker interviewees in the European terminals referred to a significant element of 'self-policing', with workers approaching one another about unsafe practice:

'...the workforce regulate themselves because if you see somebody doing something stupid it could affect you.'

Tug Driver, Terminal E4

This reflected a widely held perspective among workers and their representatives that practical experience and knowledge of the job was crucial. As a result, some monitoring processes, such as the safety observation system in Terminal E3 (see above), were regarded with cynicism by interviewees, who

suggested that these observations were only carried out to achieve bonuses, that managers lacked practical experience.

In the Asian terminals the concerns of workers and their representatives were again slightly different, seeming to reflect their perceptions of the priority afforded to safety referred to earlier. Here interviewees described being approached if they were seen walking in an area that pedestrians were banned from:

'...they tell you, it's for your safety, it's your life, it's very precious and you are to save it.'

RTG Operator, Terminal A2

However, although this was an aspect of safety compliance that was seen as being strictly monitored, on the whole interviewees in the Asian terminals felt that monitoring focused more often on productivity than on safety, with many of the checks made on speed and time spent on specific tasks.

'We have to match the demand speed. Sometimes when there are no ships we wait idle but at other times we have to work really fast. During that time everyone is working fast from gatekeeper to the QC Operators.'

Crane Operator, Terminal A1

In addition to monitoring workers' compliance, the terminals in Asia and the second area of Europe operated a number of incentive schemes for safety and/or productivity. In terms of safety, in Asia, near miss reporting was incentivised in Terminal A1. In Europe, managers at Terminal E3 received a bonus for making their allocated safety observations and for the terminal achieving its target lost time injury frequency rate; while workers received a bonus for their team achieving its target reduction in lost time injuries. Productivity incentives relating, for example, to achieving a certain number of moves in a specified time or, in one case (Terminal E3) to the number of containers moved in an additional hour at the end of a shift, were also available in some terminals in both Europe and Asia. Managers did not feel that these schemes were a source of conflict with reporting and/or safety:

'...they're turning out record performance ... yet the accident reporting would not appear to have changed ... also a significant improvement in safety performance ... I don't think the two necessarily have impinged on each other.'

Safety Officer, Terminal E3

However, many workers and their representatives expressed concerns about the conflict between incentivised productivity and safety. For example, interviewees at Terminal E3 confirmed that during what was known at the terminal as the golden hour (an hour at the end of a shift when operational workers could earn extra money):

'...there's not many people looking at us ... it is a manic hour.'

Terminal Operators and Safety Representative and Shop Steward, Terminal E3

This was part of a wider view that, as a result of pressures of work schedules, some safety practices and systems were not adhered to at all times:

'...tend to slip when time is of the essence ... good but if it's going to take too long then it's going to be put to one side to get the job done ... get the ship going. That's our main thing, get the ship going. So as far as I think the company is concerned, that's where the money is.'

Workshop Technician, Terminal E3

At Terminal E4 workers were able to see their individual productivity 'rank' within their Department on the terminal's intranet. Although this was not associated with any financial incentive, all those we interviewed were very concerned that this encouraged workers to cut corners. Union representatives raised the issue repeatedly, but management insisted that the data were invaluable to them. Interviewees felt that:

'...it certainly doesn't bode well from a safety point of view.'

Senior Shop Steward, Terminal E4

Although concerns about conflict between incentivised productivity and safety were raised by interviewees in both Europe and Asia, without the productivity bonus, workers' wages in Asia were very low,

In addition, incentives in these terminals were linked not only to productivity but also to damage to equipment. Interviewees explained that:

'...whenever there is damage the cost of repair is recovered from the workers' incentive pay. We are not even told about the nature of the damage but at the time of paying us our incentive money we are told "OK in this month the damage is so much so we deduct this much from each one of you". If, however, the damage is not noticed by the

supervisor and no report is made at the time of the incident then 50% of the repair cost is recovered from our pays.'

Crane Operator, Terminal A2

Interviewees among workers in these terminals felt that pressures for productivity, as a result of these incentives, led to increased risk of non-compliance with safety practices and procedures, with work becoming particularly intense as sailing time approached. For example, it was said that quay crane operators did not stick to safe procedures of fully raising containers before starting to move them horizontally because of the increased time this required:

'You can see that the clearance from other objects is only so much. It's quick, quick, quick and accidents such as banging of containers are common as a result.'

Crane Operator, Terminal A1

In addition to these forms of external and internal monitoring, many management and worker interviewees also referred to systems for checking both vessels and trucks using the terminals. Measures included inspecting vessels, requirements for crews (such as: securing gangways to the quay and stationing a watch-keeper; wearing high visibility jackets on the quay; not entering restricted areas), and dedicated routes and procedures for truck drivers. In Asia, such measures also extended to visiting local truck stops every year to provide them with safety information, and running safety training courses for drivers:

'...basically for external trailer driver we ... personally terminal trainers are going there and provide training to their drivers by our staff.'

Human Resources Union Relations Manager, Terminal A2

In relation to vessels, management interviewees explained that details of any unsafe conditions were recorded so, if an accident had occurred in the past and/or actions had been requested of the shipping line these could be checked before work started. They felt that this approach was effective and had achieved improvements, referring to occasions on which GNTs globally had declared vessels unsafe and refused to work on them in any of their terminals. There was a view in Europe that this was important for other terminals' benefit too, not least because:

'...our safety practices are a lot more stringent than at a port in [advancing economy] for argument's sake.'

Terminal Supervisor, Terminal E3

Although workers and their representatives generally agreed that the vessel checks and subsequent raising of issues with the captain and shipping line as necessary had led to some significant improvements in on-board working conditions, some expressed doubt that the process was carried through as thoroughly as it might be. For example, an interviewee at Terminal E4 explained that when he had questioned the safety of working on a vessel on which containers were leaking animal blood and other waste:

'...the response was, "They are one of our biggest customers. Get on with it".'

Stevedore and Safety Representative, Terminal E4

6.3 Outsourcing

The use of outsourcing varied at the case study terminals, from no non-directly employed dock workers in Terminal E4, to the majority of dock workers employed through agencies in Terminals A1 and A2, via a limited contractor stevedore workforce in Terminal E3 and the pool labour hire system combined with some increasing use of direct contracts in Terminals E1 and E2 (see Chapter 4), with outsourcing very much more widespread in Asia than in Europe. The extent to which the case study terminals' arrangements for managing health and safety encompassed outsourced contractor labour, therefore, also varied significantly and regionally.

In Terminal E3 (Europe), where health and safety requirements were part of any agreement with contractors, the contractor stevedore workforce went through an induction course which was similar to that for directly employed workers (designed by the terminal's management but delivered by the contractor). In addition, all of the terminal's health and safety management systems and arrangements extended to contract workers in the same way as to directly employed workers, with contract staff included in (and identifiable within) safety performance statistics (with the exception of sickness absence data) and monitoring procedures in the same way as other staff:

'...basically it's one rule for all the terminal.'

Terminal Operator and Safety Representative, Terminal E3

Interestingly, Terminal E3's Managing Director suggested that the use of the contracted workforce was part of the reason for a recent increase in incidents and injuries during lashing at the terminal:

'...when we're quiet and we don't need our permanent people to do the ship service they do the lashing ... so because they're no they don't do the lashing very often I think we have more accidents.'

Terminal Manager, Terminal E3

However, arrangements were different in the Asian terminals. In Terminal A1, health and safety requirements were also included in the contractual agreement between the GNT and any contractor organisation (covering, for example, provision for the GNT to fine the contractor for any instances of non-conformance to safety procedures and regulations). However, PPE for contract workers was described by some managers as a 'recommendation' rather than a requirement, with interviewees aware some would not choose to spend money this way:

'...people do not like to spend more on their PPE's, they're last to spend money on such kind of things, the contractor.'

HSSE General Manager, Terminal A1

Furthermore, training (either in relation to safety or skills as part of induction or on-going training) for contractors was not provided by the terminal's management:

'...we don't give training exactly to the contractor we hire as part of the agreement itself they are to come skill possessed.'

Operational Trainer, Terminal A1

In addition, any observed non-compliance with safety procedures was dealt with through the contractor (rather than directly with the worker). Contract workers were, however, included in schemes awarding prizes for near misses at the terminal. Managers were also aware that they earned productivity bonuses (from the contractor), but did not feel this added to their workload or intensity:

'...they don't have any pressure these guys for work they don't take pressure like this they only they try to do work fast because of the incentives ... they get the incentives like if they do more trips they will get more paid.'

Safety Supervisor, Terminal A1

In Terminal A2, on the other hand, workers' training and the provision of PPE was described as:

'...just like our employees ... no difference each and every contracted employee is undergoing training, safety training, security training and everything, all the emergency training

for him and we provide all the equipments.'

Human Resources Union Relations Manager, Terminal A2

Similarly, contract workers were monitored and, where necessary, reprimanded in the same way as directly employed workers; though some felt that they needed closer monitoring than directly employed workers because of:

'...their culture ... from the outside ... they're not very well aware about safety.'

Engineering Manager, Terminal A2

Contract workers were also included in the terminal's award schemes:

'...same prize we are giving to the contractor staff, so we are not distinguishing the differences that contracted peoples and employees all are same for us because they are important playing important role in this terminal.'

Assistant Safety Manager, Terminal A2

Nevertheless, workers and their representatives in both Asian terminals argued that conditions, procedures and regulations were often significantly different for contract workers. For example, they claimed contract trailer drivers worked longer shifts than their directly employed counterparts (12 hours as opposed to 8 hours), and were responsible for finding relief cover for their breaks (with meals taken in a separate canteen), with the result that they were frequently unable to take meal breaks. These workers felt that overall responsibility for their safety lay with their contractor rather than with the terminal's management, and again made it clear that earning productivity bonuses was essential to make a living wage.

Workers' representative interviewees expressed a number of other concerns about contract workers in these terminals. For example, some suggested that:

'...training certification is used by the management to their advantage in getting rid of contract employees who are believed to be the trouble makers.'

Senior Union Official, Terminal A1

One workers' representative interviewee summed things up by suggesting that:

'...neither the contractor nor the terminal managers are willing to listen to the plights

of the contract workers. No follow up from the [regulator] either.'

Senior Union Official, Terminal A1

6.4 Perceptions of the drivers of risk management

Our interviews with managers and with workers and their representatives suggested a number of key drivers of the terminals' health and safety management systems and arrangements. First, managers were clear that most of the arrangements and systems stemmed from a broad framework set at the global GNT level within which terminals were free to make adaptations to best suit their particular circumstances (for example, GNT C had a set of standards against which all its terminals were regularly audited); and there were also several examples of globally driven safety campaigns (for example, GNT A was rolling out a campaign extending to personal safety). In addition, terminals were set key performance targets by their GNT globally which related to both productivity and safety performance.

Within this broadly corporate approach, some operators were regarded as functioning more 'globally' than others – for example, GNT C was seen as more advanced in this respect, particularly in terms of information sharing (such as in relation to incidents and accidents), while GNT A was in the process of standardising work procedures for all jobs worldwide.

Several management interviewees also referred to regional level GNT influences and initiatives as well as global ones. For example, GNT C holds regional safety peer group meetings in different terminals (the most recent was held in terminal E3 and focused on lashing, with the next planned to focus on pedestrian access); and GNT A holds regional level meetings of senior managers to discuss a number of issues including safety. These corporate drivers were generally seen by managers as very valuable.

Workers and their representatives were also aware that safety was driven by the GNTs globally. However, they generally felt detached from the global organisation and were often unsure about its role:

'...when we had redundancies ... [GNT C] were quick to come out and say it's nothing to do with us, it's a local issue ... but we don't know, we never did find out if had come [from GNT C].'

Senior Shop Steward, Terminal E3

The flip side to this, which was also suggested by interviewees, was that there were issues where local management claimed that the GNT globally was enforcing a safety procedure, though it was not necessarily apparent if this was the case. One interviewee at Terminal E4 went further:

'At the top level ... they think the right way. They want to do the right things. I think the problem they have is when it gets down to the lower management or when it gets to the individual ports, that is when it gets watered down and productivity overtakes the health and safety culture as the top guys would like to see it ... I think there is so much pressure to make whatever money they are budgeted to make that some of the health and safety issues or aspects of what we try to do as a business gets lost because they are so concentrated on productivity.'

Convenor, Terminal E4

In addition, national level legislation, such as regulator guidelines, national dock regulations and local labour regulations were seen by a number of managers and workers as important drivers of policies and procedures in some cases. Similarly, international health and safety standards were referred to by a number of interviewees (for example in Terminals E3 and A2).

It is important to be clear here, however, that while safety managers in all the terminals acknowledged the importance of national health and safety requirements and their own role in providing advice on ensuring that their terminal complied with them, there was also an overriding belief that their company health and safety management systems and standards were significantly higher than any national requirements. As a result, many believed that achieving and maintaining the company aims in relation to health and safety management would ensure compliance with national regulations – though in some cases company approaches were no more stringent than national regulatory requirements.

Several worker and workers' representative interviewees also suggested that, although there was a global approach to safety, things were done differently in each terminal because of the local conditions and contexts. Those in the European terminals felt that this often reflected the strength of the union and hence the level of empowerment of the workforce. One senior shop steward suggested of the GNT globally:

'They are more money, money ... I think they would like to kick us [the union] out because

we are more a case of this is our terms and conditions this is the way we work we will work safely and you will get a return ... I don't think they like that.'

Senior Shop Steward, Terminal E4

Similarly, some felt that global policies were influenced by specific terminals and individuals. For example, interviewees at Terminal E3 felt that a senior safety manager globally who had previously worked at the terminal was influencing safety policy globally and, in addition, may be using the terminal to test procedures before rolling them out to all other terminals owned by GNT C. This individual influence was also apparent at the terminal level, with a number of interviewees at Terminal E3 referring to the positive impact made by the relatively new Managing Director.

A number of workers and their representatives in the second European area also felt that safety procedures were influenced by management attempts to minimise the risk of liability and litigation:

'...they just can't afford to put themselves in a position where they can be liable for anything.'

Terminal Operator and Safety Representative, Terminal E3

This was, however, tempered with the view that the terminal's current management team would 'probably' do this even without the potential for liability.

A number of both management and worker / workers' representative interviewees also felt that specific incidents in the past either at their particular terminal or in another nearby (i.e. within the same country) had been influential over current risk management arrangements, increasing vigilance as well as reporting and the review of practices and procedures. Terminal E1, for example, commemorates the death of a worker (which interviewees suggested had happened because the original risk assessment had been insufficiently detailed); while in Terminal E3 a fatality at a neighbouring terminal had been used by the Safety Department as a lever on senior management:

'...if we have one ... here [the Regulator will] come in and see that you're going to get a kicking.'

Safety Officer, Terminal E3

Finally, some workers and their representatives in the European terminals suggested that the economic climate and terminals' consequent efforts to compete might threaten some work structures and conditions in the short- and medium-terms. For example,

interviewees in Terminal E1 felt that economic pressures had resulted in fewer dockers being employed directly, and insufficient numbers being hired from the pool system. Together, these factors significantly increased workload and intensity for all workers, and consequently also increased the risks they faced and pressures on compliance with safety procedures at the busiest times in shifts.

6.5 Summary

Our case study interviews suggested that all of the terminals had broadly similar health and safety management arrangements and systems in place. Furthermore, these arrangements and systems followed a fairly standard traditional model. In particular, this was predominantly behaviourally based and had a significantly stronger focus and emphasis on safety than on health. Most managers and workers saw these systems and arrangements as broadly instigated at the global GNT level, but with substantial room for local (i.e. terminal) level adaptation for implementation. Many identified the influence of both: a) national and international standards, regulations and guidelines; and b) serious (generally fatal) incidents in their own and nearby terminals as important drivers of local adaptations to safety management systems and arrangements. In addition, there was a widely held view that the safety management systems had improved significantly in recent years both in practical terms and, perhaps more significantly, in relation to the priority afforded to safety. There was also agreement that induction training in relation to safety and its management was important, with all terminals providing induction safety training. On-going safety training, however, was much less often formally and systematically provided.

There were some also important differences: a) between terminals, and in particular between terminals in Europe and Asia; and b) between managers and workers.

Management interviewees from all terminals stressed the importance of aiming for zero lost time injuries and, as an important step towards this, systematically reporting and investigating all incidents, regardless of severity. However, despite the emphasis on incident investigation, our interviews suggested that it was rare for any investigations to consider the causes of incidents at any deeper level than the most immediate fault. That is, whilst they established who had done what and when, and whether any equipment failure had been involved, they did not generally look at systemic causes of or contributions to any human

errors involved. This seemed to be a consequence of the universal management conviction that following the safety management systems closely would mean that accidents simply could not occur – a logical extension of the behavioural foundation to the terminals' safety management systems which was seen as originating at the global GNT level and reflecting the widely held belief that all accidents are the result of workers failing to follow procedures. This missing element of investigations and the underlying assumption of the causes of accidents were of significant concern to workers and their representatives in Europe.

Manning levels were of particular concern in the first European area. Here, managers felt strongly that their planning in relation to the number of dockers required for each task was both efficient and sufficient; while workers and their representatives felt that this was insufficient and resulted in increased workloads and work intensity, and consequently in risk and in propensity for non-compliance. This area of disagreement was a reflection of the wider influence of the economic crisis on the European terminals in particular. It also echoed workers' concerns in both Europe but most particularly Asia about insufficient breaks during shifts and their potential impact on safety and well-being.

There was widespread agreement that the priority afforded to safety had improved across all of the terminals in recent years. Managers were keen to emphasise the importance placed on safety, pointing out that a number of safety solutions were not only expensive (in terms of, for example, the purchase of equipment) to implement but often also reduced productivity levels. Whilst workers broadly agreed with this, they also expressed concerns about continuing conflict between safety and productivity, which they felt was the result of intense pressure put on them to keep the work moving, particularly as vessels approached their departure windows. Interviewees from both Europe and Asia felt that corners were sometimes cut in these circumstances; however, some from Asia additionally felt that certain aspects of their safety management systems were for show only and not expected to be implemented in practice.

These differences over the priority of safety were linked to two other areas: compliance with safety management systems and practices, and the monitoring of that compliance; and incentives in relation to productivity and safety. There were some technological methods of monitoring compliance, but on the whole most terminals used observation systems which varied from the informal (which was most common) to the formal and systematic. Workers in

Europe often felt that these observational systems were undermined by the lack of practical experience on the part of the observer on the one hand, and the lack of consideration of any reasons for non-compliance on the other. Here, many felt that the workforce took pride in its 'self-policing' of compliance. Workers in Asia, however, felt that, with the exception of enforcing pedestrian free zones, compliance monitoring focused rather more on productivity than on safety.

In terms of incentives, management interviewees saw no conflict between incentivising productivity and safety. However, workers and their representatives in Europe were very clear that there was a conflict between productivity incentives (even where these were not financial) and safety. Again in Asia the emphasis of concern about this issue was at a different level – here it was essential in many cases for workers to achieve productivity bonuses to make a living wage (which had the knock-on effect of meaning that workers had concerns about taking leave and breaks during shifts).

Interviewees' views on the role of the regulator in the case study terminals' health and safety management arrangements varied. In Europe, both managers and workers saw the regulator's role as primarily reactive rather than proactive, and both also felt that in general the regulator's view was that safety management arrangements were so good that there was no need for them to visit the terminals. In addition, workers in one terminal in the second area of Europe felt that the relationship between the regulator and the terminal's management was too cosy, whilst workers in the first area of Europe felt that the regulator was supportive of them and an effective assistance, though often had insufficient time. In Asia, however, whilst managers described regular, often proactive visits from the regulator, workers had no awareness of these visits or contact with the regulator.

Several worker and workers' representative interviewees in Europe identified minimising the risk of litigation and the strength of the union position as significant drivers of arrangements for managing health and safety.

Finally, one of the most significant differences between the European and Asian terminals was apparent in terms of outsourcing. Not only was outsourced labour much more commonly used in the Asian terminals, but in addition the extent to which these contract workers were covered by their terminals' health and safety management systems and arrangements was less consistent and much less thorough. While there were some indications of improvement in some areas,

perhaps particularly at Terminal A2, it seemed that in general the management of health and safety for contract workers was often something that fell between several stools – with neither the terminals' management nor the contractor organisations really filling this role, and the regulator also tending to exclude them from its remit. This is an area we return to in Chapter 8.

Overall, managers were of the view that the health and safety management arrangements in place in their terminals very effectively covered the most significant risks faced by workers. They were proud of these systems and arrangements, committed to their continued improvement and the improvement of safety performance, and felt strongly that, if risk management arrangements and systems were fully adhered to by everyone, accidents would not occur.

Workers and their representatives shared this pride and commitment, and agreed that the systems and arrangements were appropriate for and effective over the areas they covered. However, they also expressed concerns about their heavy emphasis on behavioural approaches and the consequent failure to consider the impact of other, systemic factors on accidents, incidents and non-compliance. This was related to their further concerns over the coverage of the health and safety management systems and arrangements, particularly in relation to the structure and organisation of work. Both of these concerns have implications for safety, but they are also closely linked to workers' health and well-being (as shown in research within other sectors referred to earlier) – areas to which terminals' risk management systems and arrangements currently afford lower priority and provision than their safety.

7. Case study findings: Worker representation and consultation on health and safety

It is widely accepted that worker participation in arrangements for health and safety management makes an important contribution to their effectiveness. However, the term ‘worker participation’ has an array of meanings and is used to connote very different forms of arrangements for the engagement of workers with their employers and managers. It is therefore important to be clear from the outset what kinds of ‘participative arrangements’ we are examining in the terminal studies. Regulatory standards in most countries give workers rights to be consulted and represented on matters of health and safety. In larger workplaces, this is normally through workers’ representatives within workplaces and usually with the support of trades unions, both within and outwith the workplace. Regulatory provisions frequently also require employers to establish joint health and safety committees on which workers’ interests are also represented alongside (or occasionally instead of) their rights to be represented through health and safety representatives. The details of national provisions vary somewhat from country to country — but usually they broadly comply with those found in ILO Convention 155.¹² This is therefore a useful yardstick with which to compare practices observed in the case study terminals and we have used it, along with previous research findings on what makes for effective consultation and representation on health and safety, as the comparator for our observations in the present Chapter.

Understandings of worker participation in health and safety are, however, complicated by a host of other practices where the direct involvement of workers in health and safety arrangements is sought. The problem with such practices is that their regulatory definition is either vague or entirely absent, they embrace a very broad range of activities, many of which involve workers only very marginally and allow them little autonomy or input beyond that which is strictly demanded by their employer. They may, for example, range from one extreme of allowing workers to instigate individual and autonomous dialogue with managers or employers over the implementation and operation of OHS arrangements to another where OHS information is simply made available to workers (or demanded from them) and where they are required to adhere strictly to rules of behaviour determined by the

organisation for which they work. While the former is clearly ‘participative’ in the normal meaning of the word, it is doubtful whether the latter can be regarded in the same light — though it is often labelled as such in safety management systems.

Bearing these distinctions in mind, in the current Chapter we present an account of the extent and operation of arrangements for worker representation and consultation in which we primarily focus on those arrangements that can be understood as relevant to the provisions of ILO Convention 155. We present the perspectives on consultation on health and safety that were given by managers, workers and their representatives during the study. As with the previous findings chapters, the aim here is to gain an understanding of the supports and barriers to the effective operation of arrangements to improve the health and safety of workers in the container terminals.

Participative arrangements for health and safety, whatever their character, do not exist in a vacuum. They are usually part of the wider systems of labour relations in place in work organisations and their operation is strongly influenced by the nature of these wider arrangements as well as by the national contexts in which such systems are themselves situated and by which they are influenced. As such, the consultative practices on health and safety that were observed in the terminals cannot be properly understood without some reference to this wider context, and especially that described in Chapter 4 concerning labour relations arrangements in the terminals.

7.1 Arrangements for worker representation and consultation on health and safety in the six terminals

Articles 19 and 20 of ILO Convention 155 require arrangements to be in place at the level of the undertaking in which workers co-operate in the fulfilment by their employer of the obligations placed upon him in the field of occupational safety and health. To do so, Article 19 of the Convention requires that their representatives are given adequate information on measures taken by the employer to secure occupational safety and health; and also that they and the workers in the undertaking are given appropriate

¹²http://www.ilo.org/dyn/normlex/en/f?p=1000:12100:0:NO::P12100_INSTRUMENT_ID:312300

training in OHS. They must be enabled to inquire into and be consulted on all aspects of occupational safety and health associated with their work. Article 20 says that co-operation between management and workers and/or their representatives within the undertaking shall be an essential element of organisational and other measures taken in pursuance of all of the requirements of Articles 16 to 19 of the Convention (that is, all of the Articles which describe the responsibilities of employers to ensure, so far as is reasonably practicable, health and safety at work and for workers to co-operate with them).

ILO Recommendation 164¹³ provides further details of what is envisaged by these requirements in the case of arrangements for representation and consultation:

1. The measures taken to facilitate the co-operation referred to in Article 20 of the Convention should include, where appropriate and necessary, the appointment, in accordance with national practice, of workers' safety delegates, of workers' safety and health committees, and/or of joint safety and health committees; in joint safety and health committees workers should have at least equal representation with employers' representatives.
2. Workers' safety delegates, workers' safety and health committees, and joint safety and health committees or, as appropriate, other workers' representatives should:
 - (a) Be given adequate information on safety and health matters, enabled to examine factors affecting safety and health, and encouraged to propose measures on the subject;
 - (b) Be consulted when major new safety and health measures are envisaged and before they are carried out, and seek to obtain the support of the workers for such measures;
 - (c) Be consulted in planning alterations of work processes, work content or organisation of work, which may have safety or health implications for the workers;
 - (d) Be given protection from dismissal and other measures prejudicial to them while exercising their functions in the field of occupational safety and health as workers' representatives or as members of safety and health committees;
 - (e) Be able to contribute to the decision-making process at the level of the undertaking regarding matters of safety and health;

- (f) Have access to all parts of the workplace and be able to communicate with the workers on safety and health matters during working hours at the workplace;
- (g) Be free to contact labour inspectors;
- (h) Be able to contribute to negotiations in the undertaking on occupational safety and health matters;
- (i) Have reasonable time during paid working hours to exercise their safety and health functions and to receive training related to these functions;
- (j) Have recourse to specialists to advise on particular safety and health problems.

There was evidence of arrangements in place in all the terminals studied. The management teams at all of the terminals also generally made it clear that they believed that the participation of workers in the operation of safety arrangements at the terminals was important. This is summed up by Terminal E3's document on participation and consultation, which opens by stating that:

"A key element to the success of the terminal's safety management system is the participation of the workforce and consultation with them on occupational health and safety matters."

However, there was considerable variation in practice concerning how this participation was achieved, as well as what workers thought about its effectiveness and the extent to which it addressed their concerns. In no case did arrangements in any of the terminals entirely meet those of the ILO Recommendation quoted above, but some cases came closer than others.

As outlined in Chapter 4, trade union membership was high in all the European terminals with nearly all dockside workers members of the relevant unions. As a consequence there were long-standing and well developed systems for labour relations in these terminals in which the representation of workers' interests took place at all levels and across a range of subjects. Not surprisingly, given this background, formal arrangements for consultation and representation on health and safety were also comparatively well-established, with the worker representatives that dealt with health and safety being selected by the workforce/workplace unions in all cases and joint health and safety committees in operation in accordance with national regulatory requirements and agreements between the trade unions and the employers at these terminals. Variation in these requirements was reflected in differences in matters of detail in different terminals in Europe. For

¹³http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312502:NO

example, in accordance with national practice, health and safety representatives were appointed and joint health and safety committees established at terminal levels in Area 2, but worker general representatives included health and safety in their remit in Area 1 and there was a significant role for trade union representatives in the joint institutions that governed the whole port in which Terminal E2 was located. Notwithstanding differences in the specific detail, both the representatives and the joint committees were actively engaged in practicing functions ascribed to them by statutory requirements and official guidance and, in the best cases, they were close to the recommended practices listed in ILO Recommendation 164. It was clear from the interviews with managers, workers' representatives and workers alike that arrangements for joint consultation on health and safety in some of the European terminals compared favourably with those observed in other sectors (see for example Walters and Nichols 2007).

In contrast, the situation in the Asian terminals, while superficially meeting the requirements of Convention 155, was in practice considerably less developed and failed to meet most of the guidance under Recommendation 164. It was arguably representative of quite a different form of participation and, as we will see in the following pages, one in which workers and their representatives had only very limited influence on managerial direction in relation to OHS.

In order to try to better understand the contribution of workplace trade unions and workers' representation to health and safety performance in all of the terminals, it is worth first reflecting on what previous research findings have demonstrated in this respect. In the most comprehensive study published in recent years, Walters and Nichols (2007) first undertook a secondary analysis of British data on trade union presence and injury rates in British manufacturing. They found fewer injuries reported when trade unions and their representatives were involved in joint arrangements for health and safety than when health and safety was managed in their absence. They then carried out ten case studies in two different high-risk industrial sectors and undertook a detailed and comprehensive review of previous research studies to examine practices of worker representation and the factors that supported and constrained them (see also Walters et al 2005, Walters and Nichols 2006, Nichols et al 2007, Nichols and Walters 2009). As a result they were able to identify a set of preconditions they deemed necessary for effective worker representation and consultation on health and safety, which they also found supported by studies previously undertaken in other sectors and other countries. These included:

- A strong legislative steer and effective external inspection and control
- Demonstrable senior management commitment to both OHS and a participative approach with sufficient capacity to adopt and support participative OHS management and competent management of hazard/risk evaluation and control
- Effective autonomous worker representation at the workplace and external trade union support
- Consultation and communication between worker representatives and their constituencies

Where combinations of these preconditions were found, their study showed that worker representation and consultation contributed significantly to improved health and safety arrangements, awareness and performance. Looking at the results obtained in the container terminal case studies we are drawn towards a similar conclusion. Most of the preconditions were present to a greater or lesser extent in the European terminals we studied and while there were issues on which workers and their representatives felt consultation could have been better, overall there was clear and strong evidence of consultation taking place effectively. This was far less the case in the Asian terminals. In the following sub-sections we examine our findings and compare them with the preconditions for effectiveness determined by Walters and Nichols (2007).

7.1.1 A legislative steer and effective external inspection and control

All the countries in which the terminals were located had regulatory provisions in place to support the selection and functions of health and safety representatives and the establishment of joint health and safety committees. However, in the case of the European terminals there was a much clearer relationship between the nature of the arrangements for joint consultation at the terminals (or the larger port of which they were a part) and regulatory requirements. This relationship was less evident in the case of the Asian terminals. In Europe, as outlined in Chapter 4, arrangements in the terminals in the two areas studied were different, reflecting broader differences in both national requirements and local traditions on the way in which work in ports was organised and regulated in the two areas. In Area 1, the terminals were part of larger port trusts that functioned as the legal employer in each case and controlled arrangements for labour, including health

and safety, for all dock-work undertaken in the ports. In the case study terminals here, the GNT operators undertook management functions in relation to the trust but did not act entirely autonomously in this respect, either in relation to the control of labour or health and safety. In Area 2 arrangements at the terminals were more straightforward and were made in relation to the GNTs as the main employers and with unions representing the directly employed workers and increasingly, the limited number of contract workers in the terminals.

Despite these differences, in each case there was a joint health and safety committee which met regularly and which included workers' representatives in its composition. In all except one of the cases, where there was a port level committee, there were terminal level ones as well. In the exceptional case, while there was no terminal level health and safety committee, there were nevertheless, mandatory quarterly meetings between the terminal's management and the unions at which most of the discussions focused on health and safety. In addition, workplace meetings were held twice a year but managers suggested that few dockers attended (despite the meetings being held during paid working hours), and as a result they preferred direct communication methods (for example toolbox talks, during which they suggested dockers were also able to express their views) and referred to operating an 'open door' policy.

The European joint health and safety committees functioned in line with recognised guidance on their structure and operation; that is, they had a fairly well balanced mix of management and worker representatives as members, included specialist health and safety advisers and were often chaired by senior managers/authority figures who had executive powers. At the higher level they generally concerned themselves with advising on the oversight of health and safety management, policy and planning matters rather than the day-to-day details of its operation, consultation on which was handled at the workplace level between safety officers, supervisors and workers' representatives. In several cases there was more than one joint health and safety committee, generally an establishment or port level committee, with others at company and departmental or shift levels. In these instances the higher level committees addressed the more general issues while those closer to the working practice addressed matters of detail. Thus, in Terminal E4, for example, there was a shift safety committee, which dealt with day-to-day safety issues for each of the four shifts; a container division safety committee, which looked at more general safety issues across the port; and an executive health and safety committee which dealt with 'high level' safety issues across the

port. The shift safety committee consisted of safety representatives and safety officers (representing management); the container division safety committee consisted of the convenor, one of the senior shop stewards and the Divisional Safety Manager; while the executive committee consisted of the convenor, another shop steward, the Head of the Safety Division and the CEO acting as chair. All three levels of meeting were held quarterly and in sequence, from the first to the third, over a 2-week period, allowing unresolved issues to move up through the hierarchy as required. The trade union convenor described information as flowing in both directions through these committees. In terms of flow 'downwards', the convenor passed on information to the shop stewards, who passed it on to the safety representatives, who passed it on to the workforce. Information and feedback from the workforce travelled in the reverse direction. The convenor described these joint committees as the manifestation of the:

'...2 strands, if you want, working in parallel with each other, making sure we get the safety message out.'

Convenor, Terminal E4

Minutes from all of these meetings were circulated, allowing committee members to keep in touch with what had been discussed and identify anything that may have been missed. In addition, the terminal's shop stewards met monthly with safety managers.

In the European terminals workers' health and safety representatives were provided with time off to undertake their health and safety functions as well as training to enable them to do so.

Relations with regulatory inspectors were also in evidence in some of the European terminals. In case study E3 for example, managers said that,

'...if [the Regulator] come in, they'll tend to touch base with the union when they come in.'

Safety and Security Manager, Terminal E3

And:

'If [the Regulator] come they've got direct line into the union anyway, so the union have heavy involvement with the [Regulator].'

Head of Operations, Terminal E3

The Safety and Security Manager pointed out that the regulatory inspector and the GNT management sometimes chose to meet safety representatives during their inspections and that, on one occasion, safety representatives had been asked to escort the

visitors (in order to carry out vibration tests on straddle carriers). The trade union interviewees confirmed this close relationship and suggested it stemmed from a previous investigation into serious incidents at the terminal, but it had developed since then, and nowadays the inspector normally wrote to the convenor if he was coming to the terminal, copied him in to any correspondence with management, and passed on feedback from inspections.

In the Asian terminals the presence and involvement of health and safety representatives was far less in evidence. The joint health and safety committees also functioned considerably less as forums for two way participation than was the case in the European terminals and the level of engagement of regulatory inspectors with workers' representatives during inspection visits to the terminal appears to have been negligible. Part of the explanation for the contrast is found in differences between the wider arrangements for labour relations in the Asian terminals and those in Europe. As is clear from the descriptions of these wider arrangements in Chapter 4, in both the Asian terminals union recognition was relatively recent and was still incomplete, covering only part of the labour force working in them. Union membership, although substantial was not on the same scale as that in the European terminals. Moreover, in one terminal (Terminal A1) the company had established its own 'union' which was the only one it recognised despite the two independent unions at the terminal having substantially greater membership (see Table 4.3). There was also a far greater presence of a contractor workforce in both the Asian terminals than in any of the European ones and the terminals' management generally did not feel that their responsibility for participative arrangements extended to the contractors' workers.

In a manner somewhat analogous to Area 1 in Europe, there was a tripartite health and safety committee established at the level of the Port Trust in the port in which both the Asian case study terminals were located. However, unlike in Area 1 in Europe, the Port Trust had little capacity to influence human resource management and labour relations strategies and practices within the GNTs — and as a consequence of this, the influence of the joint health and safety committee was also weak.

Joint health and safety committees were established within each of the two case study terminals. In one of them, it appears that only the company 'union' representatives attended its meetings on behalf of the workers. As a senior manager put it:

'Well the union is basically formed from our workers, and today I think we have about eight or twelve of them here, they are themselves operators, and generally at the safety committee the HSSE, Health Safety, Environment, which is held once a month, which is chaired by the CEO, some of them will always be there, they have to be there.'

Operations Manager, Terminal A2

Workers' representatives were offered the opportunity to attend the joint health and safety committee, but little account was taken of shift patterns and so it was common for different workers to attend successive meetings. A worker said:

'...whoever is in the morning shift on that day could be called to attend — anyone really. There is no permanent person from us.'

RTG Operator, Terminal A2

This limited continuity and restricted the ability of workers' representatives to follow through actions that might have been initiated at previous meetings. Workers' representatives also indicated that they felt they had little to contribute to the meetings anyway as they were mainly used to disseminate company policies, new rules and initiatives from the Safety Department. Indeed, the conceptualisation of the meeting by both managers and workers was not that of a committee in which strategic planning or review took place in relation to health and safety but rather that of an open forum in which health and safety issues were aired.

'...In safety things, we have annually, sorry, monthly safety meeting, in that safety meeting ... all the team members in one committee, and each and everybody having their own agenda to speak in that meeting, safety meeting, so in worker category, RTG operator, equipment operator, checkers, everybody sits in that meeting and discuss with safety what kind of incident happens in the last month, what kind after that what corrective action taken and what unsafe act happens in last month, that all discuss in that meeting and any suggestions, new suggestions that come in that, and that agenda we will distribute with everybody and safety we will follow with corrective action which concluded in that meeting. ... So everybody is involved in that process, also safety, our union members also involving when we do safety campaigns and safety talks in the field, that time, several union members also involved in that to talk with workers on the safety,

and we basically, they're also involved in that practice [our emphasis].'

**Human Resources Union Relations
Manager, Terminal A2**

Since the workers' representatives indicated they felt they had little to contribute to such meetings, it seems that the input into the meeting was largely driven by the input from managers concerning matters relating to the behavioural safety agenda pursued by the company and suggested by the final sentence of the HR manager's words.

Time off with pay to conduct safety representative functions was not a prominent feature of arrangements in the Asian terminals and generally worker representation on health and safety matters was fairly inconspicuous. Workers did, however, report occasional examples of representation on OHS. For instance, in one interview a crane operator indicated that one of his colleagues represented fellow workers on the subject of safety; he was a member of the trade union and was regarded as friendly and approachable by other workers. He said of this representative:

'... when we were working on an RTG, there is a problem with the RTG, while working it starts jerking about. Yes, so I tell him the RTG is not working properly, so this is a problem, so he rectified the problem...immediately he do this, he took it to the maintenance department.'

RTG Operator, Terminal A2

But this was rather exceptional in our interviews. Generally, there was little evidence of active consultation with workers representatives in either of the Asian terminals:

'...unions are in the terminal inside the right place internal but they do not interfere in our safety.'

Safety Supervisor, Terminal A1

In the main, participative arrangements were dominated by those that might be anticipated in a behaviourally oriented safety management system. That is, they primarily concerned the direct participation of workers in activities to enhance their safe behaviour and attitudes towards safety, such as terminal wide campaigns to encourage safe behaviour and wearing of personal protective equipment, incentives, competitions and prizes to stimulate the same, as well as suggestion schemes in which they could contribute ideas to improve safety practices and performance.

'...we are carrying the promotional activities we are awarding the winner prizes small prizes we are distributing an award to our terminal staff same prize we are giving to the contractor staffs so we are not distinguishing.'

Assistant Safety Manager, Terminal A2

Communication with workers was generally carried out using standard 'direct' methods, including pre-shift briefings and toolbox talks, bulletins, notice-boards and newsletters:

'...we do the safety briefing, like a toolbox talk every, before starting of the shift.'

HSE Assistant Manager, Terminal A1

Indeed, in one of the Asian terminals, this had recently been extended to the use of small ceremonies at the start of a shift in which individuals made public declarations to work safely and to be conscious of and, where necessary, outspoken about the safety behaviours of their colleagues:

'...we take a pledge every day in the morning before the shift starts ... or in the night we have a written pledge ... we say that before starting the work we pledge that we are going to work safe ... keeping in mind about our environment our equipment ... hoping nobody is injured or harmed if at all somebody is injured or harmed we look into the matter and how avoid something like that happening again it's a pledge that we take every day.'

Engineering Manager, Terminal A2

Additionally, there was no evidence of engagement of the regulatory inspectorate with supporting representative consultation on health and safety at either of the Asian terminals.

7.1.2 Demonstrable senior management commitment to participative approaches to OHS

This precondition, along with competent management of hazard/risk evaluation and control, were both partially in evidence in all of the terminals. However, as we pointed out previously, while it was possible to find evidence of senior management commitment to both OHS and a participative approach, as well as examples of the competent management of risks, the preferred approach to achieving such participation in most of the terminals studied, as well as that embraced by the management systems originating at the global level,

was one in which 'participation' strategies were essentially those aimed at securing their cooperation with behavioural change practices that were part of the aims of the safety management systems in the terminals. This approach was dominated by an assumption of managerial control. As made clear in the previous section, in all terminals managers favoured the use of direct methods of consultation to achieve this form of engagement from workers. Where there were exceptions to this and more representative forms of participation existed, they seem to have been influenced by national requirements on worker representation on health and safety and the resilience of the systems for labour relations already in place at the terminals.

For example in the two terminals in Area 2 in Europe, Terminals E3 and E4, in addition to receiving paid time off to conduct their representative functions, and to be trained to do so, health and safety representatives undertook several functions in relation to the safety management systems in place in the terminals that were also indicated in the national regulatory requirements on worker representation in the country in which these terminals were located. That is, they received information on health and safety, and were consulted on planned changes affecting health and safety in good time; they were able to consult with their constituencies and make representations on their behalf to management; they took part in regular joint safety inspections of areas of the workplace with managers and occasionally were involved in inspections by specialists from outside the terminal, such as, for example, in the inspections of cranes. At the same time, they had little involvement in other matters also covered by national requirements, such as accident investigation or in carrying out most risk assessments, indicating that the influence of such regulatory requirements was by no means absolute.

Similarly in Area 1 in Europe, worker representatives were appointed by the two trade unions that organised the port workers, they received time off from their regular duties to act on safety matters among other issues on which they represented the interests of their members broadly in accordance with national regulatory provisions. They met regularly with management and commonly raised OHS issues. The Port Trust in the port in which Terminal E2 was located also employed safety consultants/prevention advisers that the unions nominated from among their representatives. These consultants/advisers were also well-trained on health and safety matters.

In contrast, and not surprisingly given the situation described in the previous sub-section, in the Asian terminals the workers' health and safety representatives did not enjoy any formal rights to

undertake inspections, receive information, or make representations on behalf of their constituencies. Moreover as already noted, they did not receive entitlements to paid time off to undertake their safety functions or any additional training to do so. They appeared to be regarded by management primarily as useful conduits through which managerial strategies to improve safety behaviours among the workforce could be disseminated and reinforced.

The important point about the need for managerial commitment to participative approaches made by Walters and Nichols (2007) is that such commitment is necessary for effective actions to result. Regardless of how well workers' representatives may be provided with rights to undertake their activities at the workplace, managerial involvement is required before preventive actions will occur, since the capacity to take such actions rests with management. If managers are unwilling to co-operate with a participative approach, then while such rights may be helpful in securing information or identifying hazards, which in turn may be useful in putting pressure on the employer to take action, they do not automatically lead to such action or improved OHS outcomes. This was illustrated in a variety of ways in the European terminals. For although, in general, workers' representatives felt that they were consulted on many aspects of work that affected the health, safety or well-being of their constituents, there was also frequently a sense of frustration with the results of this process. For example, in Terminal E4 safety representatives said they had no involvement in the terminal's risk assessment procedures:

'...I have never been asked to be involved in a single risk assessment since I have been safety rep for the department.'

**Tug Driver and Safety Representative,
Terminal E4**

Other safety representatives at the terminal confirmed this, explaining that they were 'very rarely' involved in risk assessment. One described having been to a single risk assessment meeting at which the seven management representatives presented a series of risk assessments they had agreed at an earlier meeting for review by the safety representative and shop steward saying:

'...it was all cut and dry really.'

**Stevedore and Safety Representative,
Terminal E4**

Interviewees in this terminal suggested that, in general, managers initiated good ideas that saved time and money. However, they qualified this with the

concern that, when they wanted to introduce something new:

'...they will railroad it in regardless of what we think.'

**Tug Driver and Safety Representative,
Terminal E4**

Other interviewees suggested that despite formal procedures, in practice there was generally very little 'real involvement' of workers or their representatives in the development of safety related practices, policies or procedures, saying they had:

'...never been asked. You can give your opinions I suppose. But I don't think we are listened to ... and I get the impression that they often don't want to hear it.'

Tug Driver, Terminal E4

Similarly, there was a feeling that changes were sometimes introduced not only without consultation but also without explanation, and further that senior management in particular were remote from the workforce:

'...the higher management who just don't want to come down to our level. They don't want the bombardment of opinions. They haven't got the time for it. They don't want it. ... they are locked away in their little offices.'

Tug Driver, Terminal E4

Despite being able to cite some examples of consultation in advance of changes, several safety representatives felt strongly that changes were often brought in without consultation. Some went further and suggested that, as safety representatives, if colleagues called them to a situation managers often questioned what they were doing there and why they had been contacted:

'I get called to a situation and it is not the fact that I get called to the situation it is, "Why are you here? How did you get called?"'

**Tug Driver and Safety Representative,
Terminal E4**

They also said that joint safety committee meetings were difficult arenas in which to really air their concerns:

'...you have to pick your words carefully.'

**Stevedore and Safety Representative,
Terminal E4**

They went on to explain that they would prefer to also have the opportunity to hold meetings amongst themselves, as was the practice amongst the shop stewards at the terminal, so that they could speak more freely about issues before going to the joint safety committee.

In case study E3, workers' representatives expressed concerns about the consultation process where major expenditure on new equipment was envisaged. There were differences between them and their managers in perceptions of risk and cost in these situations and a sense that, in involving health and safety representatives in consultations on the purchase of new equipment, managers were forcing through their own decisions while:

'... they sort of followed the process to a point and now it feels a little bit like they're jumping the gun, again they are paying lip service to a point.'

**Senior Steward, Terminal Operator and
Instructor, Terminal E3**

In this case the representatives were concerned about the possible serious incidents which they said management claimed were extremely rare and unlikely to occur, but which the interviewees' had witnessed in recent years at the terminal and they wished their view to be taken more seriously:

'...when you get people that actually do the job telling you that no we don't want to go this way we're not doing it to be bloody minded we're doing it for a reason and I think they need to understand that.'

Senior Shop Steward, Terminal E3

There was also a view in this terminal that consultation of workers' representatives by management was a relatively recent development which interviewees felt had come about after reports into serious incidents at the terminal had identified problems in this regard:

'...It's only over the last few years really that they've started coming to us and asking us for advice ...

... they had to change that to be more open to us they had to start being honest with us didn't they? Because there was a lot of ... in the reports there was a lot of that ... there was a lot of cloak and dagger and there was a lot of hiding stuff from us.'

**Terminal Operator and Safety
Representative, Terminal E3**

In Area 1 in Europe, the situation was complicated by much of the joint consultation for strategic decision-making on health and safety occurring at the level of the Port Trust in Terminal E2. At the terminal level there was a sense that managers involved workers' representatives in their safety management practices, but there was a similar sense of frustration that often their initiatives and remedies did not go far enough to improve the situation they addressed. There was also a difference in the wider labour relations situation in the two terminals. At the time of our investigation it was considerably strained in one of the two Terminals, which clearly affected relations on health and safety issues too. This was further complicated by different levels of trust seemingly in evidence in relations between workers, their representatives and managers on the different quays within the terminal. We were unable to explore these differences more fully, but there seemed to be greater co-operation and dialogue on the quay where the trust evident in the relationship between the dockers and their managers was most pronounced (this is not really surprising and has been commonly found in previous studies on the relationship between good labour relations and co-operation on health and safety matters — see Walters 2006 for a review of these studies). It is, however, a subject that warrants further study.

In the Asian terminals, since consultation practices were not as developed as in their European counterparts, marginalisation of workers' representatives in decision-making on health and safety management was the norm. For example, when asked about risk management, interviewees replied that there was no practice to involve the workers in conducting risk management. Furthermore they stated that they could not answer whether the managers conducted risk management on their own as they were never involved. As far as they were concerned, the form and level of consultation that occurred was limited to occasional briefings from safety supervisors. They said:

'In the morning we sometimes hold tool box talk which is the only time we see the safety supervisor. He may come down and sometime tell us about work procedure and always say "Work safely". We line up and listen to him talk for about five minutes.'

Crane Operator, Terminal A2

They were also clear that they had no involvement in the investigation of accidents:

'...management people are the only ones who are investigating and inspecting accidents.'

'There is no room for workers to get involved or conduct joint inspections.'

RTG Operator, Terminal A2

There was also no experience of contact with dock safety inspectors. Some of the workers' representatives interviewed said that, although they were aware of the existence of these inspectors and thought they visited the terminal perhaps once a year, they had never met one:

'OK, port inspectors. They deal largely with the management. I am not sure who a dock safety inspector is. They go to managers and maybe they take rounds on the dock but this is not our business. Perhaps it happens once every year.'

Crane Operator, Terminal A2

The extreme limitation of arrangements for representation and consultation on health and safety was felt even more by the workers of contractors, who sometimes belonged to trade unions but these unions were not recognised for any consultative or negotiating purposes by either the contractor or the terminal operator. Indeed, union membership itself was considered risky among some of the contract workers interviewed. For instance, one of the contractor TT drivers said that being a union member was not viewed in a positive light either by contractors or the terminal operator and as a result he had to be extra careful to avoid being victimised. He gave the interpretation of the pedestrian-free rules in the terminal yard as an example of the way this could happen:

'You see I am a strong union follower. The [GNT A] managers don't like me as a result. Everyone knows me as the difficult one. So they are especially harsh on me. Even if I step out of my TT to check tyre condition and pressure they supervisor will shout "Hey you go inside your vehicle at once".'

Truck Trailer Driver, Terminal A1

Since it was among this group of workers generally that many of the more challenging health, safety and welfare conditions were experienced, this meant that the role of representation and consultation in their moderation was minimal. For example, there was widespread agreement among both the workers and managers interviewed that as a group of workers, lashers were particularly vulnerable to injuries from the work they did and there was also concern that arrangements for their welfare were unsatisfactory. Most were migrant workers who were recruited by a third party contractor, often from the same villages, at considerable distance from the terminals where they

worked. They were generally poorly educated and unskilled and lacked training in safe working practices, and they worked long shifts, alternating between days and nights, with little time-off. There were further concerns mentioned about the quality of their accommodation that was also arranged by the third party contractor through which their employment was organised. They were allowed only weekly passes to enter the port, which although regularly renewed, served to heighten their sense of the insecurity of their employment and its vulnerability to the whim of the third party contractor who recruited them, the contractor who employed them and the terminal operator. On average they remained in employment for periods of between six months to two years.

'I have my brother, cousin and friends from the same village working with me. My contractor boss asks me get people from my village when he needs some. My friends are happy to come... but it is hard life. Some adjust, some go back. Sometimes they leave in six months but mostly people stay for two years or so. I have been here for eight years. We all live in the same house which is around 45 minutes by car. The company provides us with gas, electricity and commuting van. We only have to spend money on food. We bring [food] from home and eat it together. We come to work and go home. I have never ventured out into the town. It is expensive. ... If you do not work you do not get paid. ... I want to save all of that and send home. We get weekly passes to enter through the gate and work as lashers. This is not a problem as such as the contractor boss gets our passes renewed. I am stuck here – I know only this work. Where else can I go?'

Lasher, Terminal A2

They were therefore especially vulnerable and unlikely to raise health and safety concerns directly with any of these parties who controlled their continued work. Their isolation, combined with the absence of any form of representation of their interests from within their group or by means of a trusted outsider, meant that there were only limited possibilities to communicate with them in relation to good practice on health and safety at the terminals, or to take their experiences into account when reviewing the risks of their work. This absence of representation also meant a low level of trust existed between this group of workers and the terminal management. None of this served to enhance the protection of their health, safety or welfare while they were at work.

More positively, it was evident from interviews with workers, their representatives and managers in several

terminals that the role played by key individuals in both union and management, including that of the local company leadership, had been effective in setting up arrangements for representative participation. In Terminal E3, for example, workers and representatives indicated that the new Managing Director had changed the leadership style and approach to participation at the terminal. They explained that they would never have spoken to previous Managing Directors or Operations Managers, but now:

'... you can go and speak to anyone you want ... the MD walks down the corridor [and knows workers' names].'

**Terminal Operator and Shop Steward,
Terminal E3**

While in Terminal E4, having described the normal arrangements for resolving safety issues between representatives and supervisors, a workers' representative said that if necessary, he could:

'...go above them and go straight to the terminal manager. And he is pretty good ... he is pretty proactive.'

**Tug Driver and Safety Representative,
Terminal E4**

He explained that the manager would come and observe a disputed situation or procedure and, if necessary, change it immediately.

Occasionally, senior managers themselves explained their commitment to resolving safety participatively and were clearly aware of the responsibility that came with this commitment:

'...this is a big issue to make sure the safety's right and what we're trying to do is use technology to mitigate it, the reduction in productivity but... but... but what we've done is we've opened that debate with the workforce and we quite rightly now have to go through that whole ... whole process ... because the worst thing you can do is ask for their involvement and then ignore it ... so... so if we do a decision that's opposite to what the union want, we need to explain why.'

Managing Director, Terminal E3

7.1.3 Autonomous worker representation and external trade union support

While managerial commitment to both OHS and participative approaches is necessary for the

effectiveness of representation and consultation, it is also important that there is support for the autonomous position of the representatives on OHS issues, along with the means to access support for such autonomy. There is a considerable body of research that lends weight to the idea that workers' ability to maintain such an autonomous position is important for effectiveness — both in terms of the way in which they make sense of their experience of issues that may affect their health or safety at work and in the way they construct effective ways to address these issues (Walters and Frick 2000; Hall et al 2006; Walters and Nichols 2007; Walters et al 2012a).

Normally, the source of such support comes from trade unions outside the workplace. This was the case to varying degrees in all the terminals. The main differences observed were between the European and Asian terminals, reflecting the different level of union penetration in the two situations and the extent to which trade union representation was embedded in the wider labour relations practice at the ports. That said, even in the Asian terminals there was some evidence that the support of the trade unions outside the workplace had helped achieve the, albeit limited, arrangements for the practice of representation and consultation that were in place. For example, officials representing the two independent unions gave accounts of the long and difficult process of gaining recognition for the unions within the terminals and the signing of a collective bargaining agreement (CBA) as outlined in Chapter 4. This was a process that was on-going and which they felt had contributed to the acknowledgement not only of the trade union in the terminal but also of its representatives among the workers. Workers also spoke of the CBA being central to their participation in health and safety matters at the terminal.

However, perhaps even more significant than its role in the facilitation of specific arrangements for participation was the role the trade unions played in negotiating wider issues that affected work-rates which, as we have seen in previous Chapters, in turn affected the health and safety experience of workers. Thus, the rate at which containers were moved, the shift arrangements for crane operation and other shift patterns were subject to some degree of negotiation by virtue of the CBA.

The trades unions also provided some training for representatives and organised meetings outside the terminals, using the premises of the Port Trust, in which they could raise and discuss health and safety issues among themselves. They also raised matters of health and safety on behalf of their members and other workers with the terminal operator as well as

with the Port Trust on which the trades unions were represented, and with other interested parties.

One of the local trade union leaders who had been dealing with the terminals since they were under their present ownership presented the researchers with a dossier of these attempts to improve OHS. They included efforts to persuade the GNTs to improve their occupational health services, detailed requests for improved welfare facilities for contractor labour and concerns about the quality of road and quay-side surfaces and the prevention of MSDs among the truck trailer drivers. Correspondence on these and other matters spanning several years had taken place between the local trade union office, the Port Trust and government inspectors, as well as with the GNTs themselves. However, it did not appear to have resulted in effective resolution and most of the health and safety issues raised were on-going.

Overall then, while the impact of trade union support was relatively limited in terms of tangible changes it had instigated in the safety practices in the Asian terminals, without such support, communication between managers and workers on health and safety would have been even more dominated by an organisational model in which the flow of information and instruction was unidirectional and the role of communication from workers to managers was limited to demonstrating compliance with the requirements of the safety management system.

In the European terminals the role of trade union support was clearly much more developed and in line with findings in other industries in other advanced market economies (see Walters et al 2012a for a review of trade union involvement in OHS in Europe and beyond). That is, while the detail of arrangements varied between terminals, systems for worker representation on health and safety related to the safety management system, but they were also an element of the wider systems for labour relations that existed in all the terminals and were operated along similar labour relations lines. As in the Asian terminals, there were CBA or their equivalents in place, and trade union support was therefore present not only in relation to the specific arrangements for health and safety but more widely in the extent to which the unions negotiated with the GNTs on a range of pay and working conditions that had indirect effects on health and safety:

'What we have is a collective agreement ... the collective agreement is just basically down to employment things and the way we work down here ... the company will follow the collective, they will never go outside of the

collective ... the collective agreement works. We stick to it.'

Senior Shop Steward, Terminal E4

They were also involved with regulatory bodies and their inspectors and in wider trade union initiatives to support health and safety at work.

'We are very lucky compared to some ports, I've been on a safety course ... with other guys from around the country working at various different places, and I was quite shocked, how the management treat them.'

Terminal Operator and Safety Rep, Terminal E3

Trade union officials were members of the port level tripartite bodies where they existed, and appear to have played a significant role in decisions taken at this level. The unions organised training and information provision for the health and safety representatives as well as helping to support communication between them. The scale of provision was of course far more developed in the European terminals than in the Asian ones, reflecting the far greater development of worker representation and consultation on health and safety in the former and indeed the greater role of trades unions in labour relations generally in these terminals.

7.1.4 Consultation and communication between worker representatives and their constituencies

The remaining precondition for effective representation identified by Walters and Nichols (2007) concerned the extent to which a dialogue was maintained between workers' representatives and their constituents. While such communication might seem to be an obvious requirement for effective representation, research shows that there are in practice several factors that serve to militate against its occurrence. The most obvious of these is that often there is insufficient time for such communication to take place. Health and safety representatives may not work in the same part of the workplace as some of their constituents or may work different shifts or have different break times to some of their colleagues, and management may be insufficiently generous with its allowance for paid time off to enable safety representatives to remedy this and access their workmates regularly. In some workplaces safety representatives are able to organise small meetings to enable communication between themselves and their colleagues - although it is more normal for them to utilise meetings intended for other purposes to achieve such ends.

This seems to have been the practice in some of the terminals. In Terminal E3, for example, union health and safety representatives explained how they used their role in delivering safety briefings at pre-shift briefings and tool box talks (a role facilitated by the Safety Department) not only to brief workers in relation to new information emanating from the Safety Department but also as a useful means to brief their constituents on what had happened at safety meetings with management and provide immediate feedback from them:

'[At the pre-shift briefing] they'll tell you what's got to be done that day, what ships in, but also as well, we use it as a, well ... [a safety representative will] stand up in front of his team, and ... tell the lads what's happened at the safety meeting or the stewards meeting and what we've agreed, any changes and it's good, good for us to get that feedback straight away to the rest of our members, they're there in the morning in the mess room, we have the shift brief anyway.'

Senior Steward, Terminal E3

In this terminal the general view among the worker respondents was that managers talked to workers' representatives about things they wanted to implement, who then talked to workers and received feedback from them which they passed back to management so that, in the words of one worker respondent:

'...nothing's forced upon you.'

Terminal Operator and Safety Representative, Terminal E3

In this respect, this respondent also said:

'...the union provides a good role for us, I think, as a backup to the safety committee.'

Terminal Operator and Safety Representative, Terminal E3

Practices for communication on safety and health between workers and their representatives varied in the other European terminals. In Terminals E1 and E2 dockers were said to often contact their union reps on OHS issues. In Terminal E1 there was a local practice in which relevant dockers were often asked to join workgroups on specific OHS issues. In Terminal E4, two weeks before a shift safety committee meeting, safety representatives were sent a questionnaire to complete in order to describe any questions, queries or issues arising in their Department. One safety representative explained how he dealt with completing the questionnaire to represent workers' views:

'I don't know how the other guys do them but I photocopy it and then a couple of days before the meeting while it is fresh in people's minds I just put it out on the tables throughout the whole course of a shift so they have got 12 hour, to write down their thoughts.'

Tug Driver and Safety Representative, Terminal E4

Otherwise communication between safety representatives and workers seems to have been informal and ad hoc, the idea being that safety and representatives would receive information from workers about their concerns in relation to health and safety would pass this information on to shop stewards who in turn would take up these issues with management. Workers received information concerning management initiatives through the reverse of this route. Safety representatives discussed this with their constituents before providing feedback for shop stewards to take up with management. A senior shop steward explained that any new procedure first had to be proposed by management to the union, then discussed and agreed in detail before it could be rolled out on the terminal:

'...nothing gets imposed, it gets discussed.'

Senior Shop Steward, Terminal E4

Similarly, this interviewee felt that union workers' representatives had played a significant role in the development of the terminal's safety policies and procedures.

The convenor explained that while pre-shift briefings took place monthly, to coincide with the safety campaign being launched across the terminal, safety representatives had no involvement in this process, though they were meant to be present, because the management view was that:

'...it is the manager who should be talking to the workforce because it is the manager, it is his people as they see it.'

Convenor, Terminal E4

In the Asian terminals, not surprisingly given the generally poor provision of specific support for health and safety representatives' functions, there were no formal arrangements to allow safety representatives time to communicate with fellow workers. However, such communication did undoubtedly take place as was evident from the many examples of both workers' representatives and union officials becoming aware of health and safety issues that were of concern to the workers in the terminals. From the managerial

perspective, as previously highlighted, workers' representatives were regarded as a useful means of disseminating health and safety messages to workers and were therefore encouraged to communicate with their workmates in their own time. Most examples of either form of such communication, however, were those that occurred between workers and representatives who were working in fairly close proximity, such as is illustrated by the example among the crane operators quoted previously. It was not clear how communication was facilitated in other situations, but given the lack of arrangements in place to allow representatives to undertake their safety functions during work time and the very strong sense of the pressures to maintain a fast pace of work conveyed in many of the interviews with workers and representatives (see also the previous chapter), it seems unlikely that managers would have encouraged this.

In short, in keeping with the findings of previous research, most of the communication between representatives and their worker constituents was through informal means in all of the terminals studied. The ability to communicate effectively with workers was to an extent dependent on the wider facilitation of the role of representatives by the GNT management, which varied from terminal to terminal but was strongest where there were well-established procedures for labour relations. Here, both formal arrangements to support communication were evident as well as leeway in the daily activities of workers' representatives which allowed them the necessary space to relate to constituents as appropriate. Representatives were generally concerned about pressures to maintain the work-rate at the terminals which, apart from direct effects on the health and safety of workers, also created some tensions in relation to the time available to enable them to carry out their functions as health and safety representatives, including that for communication with workers. However, they did not single out this activity as one that was under any more or less constraint than any other.

A second communication problem reported in previous research on the activities of health and safety representatives occurs in situations in which representatives become remote from their constituents, lose touch with their concerns and/or are unable to report back effectively on their dealings with management. This generally occurs either because of the nature of the issues they are addressing or because of the amount of time they spend with management, or as a consequence of a mixture of the two, combined with inadequate arrangements for communication with workers. The same type of experience is reported

in research on the activities of shop stewards and other workers' representatives, but the nature of the subject of health and safety lends greater potential for such breakdown, both because of its technical/legal nature and because of the potential to attract volunteers who are more interested in these aspects of the subject than in representing workers' interests. Added to this potential, in the terminals studied the managerial attitude towards incorporating health and safety representatives in the delivery of the behaviour change elements of the safety management system may have served to undermine workers' perception of their role as *representatives*. However, despite this potential, there was no significant evidence of this occurring in any of the terminals. In all cases, workers and representatives interviewed were entirely clear about the nature of the role of the health and safety representatives and there was no reported dissatisfaction with the way in which representatives fulfilled it.

7.2 Conclusions

The overwhelming feature of the experiences of representation and consultation on health and safety in the six case study terminals was the way they demonstrated two distinct models of participation. While globally the GNT operators seemed to have a preference for an organisational model of employee participation in which direct methods of consultation with employees predominated, in the European terminals representative participation was nevertheless well established. The significant reason for this was the long-standing presence of robust and resilient wider arrangements for labour relations deeply embedded in the ports in which the terminals were located. Along with a mixture of trade union and regulatory influence, this established situation had helped facilitate the further establishment of arrangements for representative participation on health and safety, largely along lines required in national regulatory provisions and in keeping with the requirements of ILO Convention 155 and the guidance of Recommendation 167. Moreover, in the eyes of the workers and representatives interviewed, the arrangements worked reasonably well in ensuring the representation of most of the workers' immediate concerns on health and safety matters and in informing them of initiatives taken by managers and the Safety Departments in the terminals to address health and safety.

In contrast, arrangements for representation on health and safety were far less developed in the Asian terminals reflecting relatively recent recognition of

trade unions by the GNTs and the underdevelopment of their role in systems for labour relations at the terminals. This was despite the location of the terminals within a port in which such arrangements had been in place historically (and were still in place for the port overall). Workers' representatives at these terminals had few agreed rights to undertake specific functions in joint consultation on health and safety such as those in ILO Convention 155 or its Recommendation 167. Nor did they receive support from employers to enable them to do so. Instead, at most the GNTs regarded them as part of their organisational strategy to promote worker engagement in health and safety through the safety management system. The implications of their autonomous position as workers' representatives in relation to this system were largely ignored. Moreover, it was in these terminals that the outsourcing of operational activities to contractors was most developed, with a large proportion of the workforce no longer under the direct control of the terminal operator. Although there was trade union membership among the contractor workforce, as far as we were able to ascertain the unions were not recognised by the contractors and the GNTs did not regard it as their business to interfere with their labour relations strategies. This meant that in effect there were no approaches to managing health and safety that involved representation or consultation for a substantial portion of the workforce in these terminals.

A further key feature in influencing the extent of the consultation with worker representatives on health and safety was the commitment of managers to this approach, and especially that of senior managers, along with support from regulatory inspectors. Again there were significant differences between the European and Asian terminals in this respect. As discussed in previous sections, in the European terminals managers made an effort to engage with representatives on health and safety issues, consulting with them in good time concerning changes or initiatives they wished to make, sending them to other sites to view proposed new equipment or procedures and using them in training and briefing sessions for workers as well as being responsive to the representations made by the workers' representatives on behalf of their colleagues. While these arrangements did not necessarily lead to the OHS outcomes that were desired by the representatives, they nevertheless allowed opportunities for communication on health and safety issues. Regulatory inspectors were also known to representatives, they met with them when inspectors visited the terminals, as well as receiving copies of written correspondence that inspectors sent to employers at the terminals following their visits. In contrast, there was little if any

commitment to this form of participation among the managers in the Asian terminals and also no communication between inspectors and the representatives of workers.

Despite their establishment and operation in the European terminals, it is important not to exaggerate the extent to which arrangements for representation and consultation were regarded by workers and representatives as being effective. More often than not, while interviewees indicated that some level of consultation on health and safety matters had occurred as a result of these arrangements, they were less than entirely happy with the outcomes of the process in terms of the changes to health and safety practices that resulted. Relatedly, a noticeable feature of representation and consultation on health and

safety in all of the terminals, like that of the safety management systems more generally, was the limited extent to which these primarily safety orientated approaches were able to address what workers and their representatives perceived to be among the significant underlying reasons for poor health and safety outcomes at the terminals. In this respect, they repeatedly gave examples of ways in which the organisation of work, its pace and its intensity, as well as the outsourcing of a significant proportion of it in some terminals, affected workers' health and well-being. While the wider systems for labour relations in some of the terminals, especially among the European case studies, allowed for some representation and consultation on these matters, it was evident that representation on health and safety provided little of such opportunity.

8. Mind the Gap? Issues for health and safety management in container terminals

In this study we have sought to provide an indicative picture of how health and safety is managed in container terminals around the world, with a special focus on those terminals owned and operated by large global companies, generally referred to as Global Network Terminal (GNT) operators. We have done so first by seeking views from an international panel of trade union officials and representatives involved in organising labour in different terminals in different parts of the world, including many operated by GNTs. We then followed up this initial scoping exercise with a more detailed examination of practices in six container terminals, operated by four of the larger GNTs, that we have visited and at which we conducted detailed interviews, made observations and received documentation on procedures and performance from the terminal managers and trades unions. In addition we have received information on health and safety policies and performance outcomes from the global headquarters of some of the GNTs included in the study. The outcomes of these efforts have been reported in the previous Chapters. In the present Chapter we draw together the various themes that have emerged from our findings and try to contextualise them within the wider literature on recent developments in the operation of ports, labour relations and health and safety management. We think such contextualisation is important, both with regard to the usefulness of these findings in informing future policies on supporting health and safety in container terminals and to help understand the nature of the further research that we think is required to assist this.

Perhaps the most obvious feature of our findings is the difference they demonstrate that exists between managers and workers and their representatives in what they perceive to be paramount issues of concern for health and safety in container terminals. These differences are evident across a range of understandings about the nature of the problem of health and safety, the reasons for it and the solutions proposed to address it in the container terminals. There are also substantial differences in all these matters between terminals in different parts of the world. In our global scoping study they were present as differences in experiences of terminal operation between advanced and advancing countries, while in the case studies, although there were some differences between the terminals we studied in the two European areas, they were not as great as those between

terminals in Europe and those in Asia — thus confirming the findings of the global scoping study.

These contrasts have prompted the title of the present chapter, in which we seek some explanation for our observations, while accounting for the limitations of an indicative study and suggesting key areas in which further research is required. Since the *leitmotif* of the development of container terminals is one of change and its consequences, we begin the discussion of our findings with an account of emergent themes in relation to the consequences of change for managing the health, safety and the well-being of workers.

8.1 Changes in operation and employment in container terminals

As we noted in the Introduction to this Report, there have been major changes in the way in which ports handle the transportation of goods by sea in recent decades. The impact of ‘the box’ and the huge changes in the ways in which goods are carried on board ships, how they are loaded and unloaded, and in the design of port facilities to achieve this, are well-known. Indeed, the emergence of container terminals as a major feature of modern port infrastructure is itself symptomatic of such change. Not only have there been technological and logistics changes, however, but parallel and equally significant change has taken place in port ownership and organisation and in the employment practices within them, with consequent major reform in labour relations. All these changes have been global in reach, with broadly similar trends identifiable across a host of ports in different locations around the world.¹⁴

Global Network Terminal operators have emerged as significant players in the container trade in recent

¹⁴ We make no attempt to document the details of these changes in this report as they are well covered elsewhere. For example, in the maritime transport and business literature on port ownership, design, restructuring and logistic efficiencies; in the employment and labour relations literature concerning the nature of work in modern port facilities and emergent trends in labour relations in them; and in the regulatory and economic policy literature concerning trends in privatisation, and the role of governance and regulation in the development and operation of modern port facilities. In all these literatures container terminals and the logistics of ‘the box’ feature prominently.

decades and seem to be set to continue to do so. As large companies with a global reach, they have been swift to take advantage of opportunities presented by privatisation initiatives in ports internationally and have invested substantially in the development of container terminal infrastructures worldwide. In particular, the four GNTs operating the case study terminals visited for the present study have between them by far the largest share of this section of the business of container transport, with more than half of terminals operated by GNTs in the world operated by one or other of these companies (Rodrigue and Nottboom 2011). Analysts of business trends in the container trade have demonstrated how these companies first expanded their operations to take advantage of opportunities offered by international trends in port privatisation; and how this was subsequently added to, with the entry of major container carriers into the business of container terminal operation in an effort to enhance their core operation through additionally running networks of terminals.

More recently, global recession has led some of these operators to seek to consolidate their holdings and concentrate more on internal logistic efficiencies, linking land and sea transportation of containers and the improved technology of operations within existing acquisitions rather than increasing acquisition of further port facilities (Rodrigue and Notteboom 2011; Notteboom and Rodrigue 2011). Nevertheless, GNTs continue to be major actors in the terminal industry and their policies and practices play a substantial role in determining trends in the sector.

At the same time, these policies and practices are imposed upon existing systems of port ownership, operation and employment which are themselves subject to the over-riding trends in port privatisation, but which nevertheless reflect the different national contexts in which this takes place. Therefore, while the influence of change in GNT operated ports has been global and its drivers similarly sourced in global company strategies and national economic policies, outcomes are mediated by the varied resilience of existing practices and the players involved, as well as by differences in surrounding regulatory and economic scenarios. As we have noted in the previous Chapters, this has led to different outcomes for the organisation of work and business practice in the ports in the terminals we studied. Such wider outcomes understandably also impact on the ways in which health and safety is managed in these terminals and its results in terms of worker health, safety and wellbeing.

8.2 Change and measures of occupational safety and health

There is a widely held notion that containerisation has resulted in improved health and safety in ports. It is based on the seemingly logical idea that boxing goods and organising the mechanisation of their loading and unloading will serve to reduce the scale of physical labour in such operations and in so doing greatly reduce the incidence of injuries and ill-health associated with such heavy manual handling work. However, our findings have been unable to substantiate this effect.

8.2.1 Measures of safety outcomes in the terminals

While it is true that the data made available to us on injuries in container terminals suggest a broadly downward trend in many regions, as we have pointed out in the previous Chapters, the limitations of these data as supplied are such that they cannot, on their own, be taken to indicate robust evidence of improved health and safety outcomes. More importantly, they cannot be used as strong evidence of the effectiveness of OHS management strategies in reducing the frequency of occupational injuries in container terminals in relation to the numbers of workers at risk. To achieve either of these outcomes reliably, substantially more detailed data on injuries and the factors that affect them, as well as the demographics of the workforce, is required.

More significantly, however, the conventional notion of containerised ports as inherently safer ones can be questioned on a number of levels, as is made clear by an examination of previous research on this topic. Indeed the only detailed quantitative study on injury trends in a containerised port over time suggests caution is warranted in the acceptance of this conventional wisdom (see Fabiano et al 2010). Containerisation has reduced the number of workers exposed to the risks of injury experienced in more traditional manual work in ports. As such, a reduction in the overall numbers of injuries would be anticipated. However, at the same time as containerisation has taken place, other significant changes in work organisation in ports handling containers have also occurred. They have frequently included efforts to achieve a greater pace of work, the employment of new and less experienced workers, as well as substantial areas of work being outsourced and the resulting presence of numerous separate employers

and their workers on the same work site. There is strong evidence from other industries to indicate that all these factors contribute to an increased risk to the health and safety of the workers involved (see for example reviews by Quinlan et al 2001 and Quinlan and Bohle 2008, Walters et al 2011). There is little robust research examining these issues in container terminals, but such as there is indicates that they may present similar scenarios of risk for the workers employed in them. In a key recent study, for example, Fabiano et al (2010) argue that when they studied patterns of recorded injuries in one port over the period of time during which the changes typical of containerisation took place, their analysis of injuries and work organisation showed:

'...the sharp change in port infrastructure involved a rapid modification also in the work organisation, with particular reference to the number and characteristics of workforce (decrease from 5783 to nearly 1000 employees and increase of low experience workers from 28% to 74%). The striking high percentage increase of young or low experience workers in handling container (and performing correlated new tasks) causes a remarkable increase of the risk for occupational injuries....an increase in the frequency index from 13.0 to 29.7....'

In other words, in the one port they studied, they found that the changes to work organisation brought about by containerisation, while reducing the number of workers at risk, *increased the risk of injuries for those who were working*; a risk they argued to be associated with changes in the work involved and the inexperience of the workers concerned.

Data of this sort are hard to come by. They require reliable and consistent recording of injuries over a period of time along with the recording of data on the factors that affect their frequency, such as changes in the organisation of employment, the kinds of tasks performed, the organisation of work (such as shift patterns and lengths etc.) and the nature of workforce composition over the same period. In addition, to allow comparisons these data need to be consistently recorded and collected together with matching denominator data (e.g. hours worked) across terminals and GNTs. But without such data, it is not possible to make reliable statements concerning the effects of change on safety outcomes such as the incidence of injuries. Equally, without these data it is not possible to evaluate what impact managerial strategies to improve health and safety actually have on these outcomes.

8.2.2 Work-related health outcomes

Injuries are only one measure of health and safety outcomes. They tell us little of the nature or extent of the consequences of organisational change for workers' health or well-being. Yet, here again, we know from studies in other industries that there are a variety of well-documented health effects that result from such change. They occur as a consequence of the emergent risks associated with restructuring, reorganisation and intensification of work and the inadequacy of arrangements of conventional approaches to managing health and safety to meet the demands of fragmented and multi-employer worksites that are often the result of such changes, as well as the limited effectiveness of conventional approaches to worker representation and consultation in such restructured workplaces. They are further exacerbated by such organisational models making it harder for principal employers to monitor and review performance on health and safety in such fragmented work situations and for regulatory inspection to undertake effective surveillance. As is reported in some detail in previous Chapters, respondents in the global scoping study pointed out many of these scenarios in container terminals operated by GNTs in different parts of the world and these were further evident in the European and Asian terminals we studied in more detail.

Their effects on health were reported to us anecdotally, especially by the workers and their representatives we interviewed, but they were not included in the data made available to us by the GNTs. It is interesting to note that musculoskeletal disorders, the effects of fatigue and the incidence of stress were among the conditions most frequently referred to by both workers and managers (albeit more frequently by the former) and these are also the conditions that the wider research literature finds to be most associated with the kinds of changes, outlined above, which were widespread in the terminals.

Our indicative findings strongly suggest, therefore, that the non-provision of any data that may be collected on these conditions, the difference between managers and workers in their perception of their occurrence, and the expectation (drawn from wider research findings) that the structure and organisation of work in the terminals would lead us to anticipate the occurrence of a significant level of such unreported ill-health, all justify further investigation of the work-related health experience for dockworkers in container terminals globally. It needs to be borne in mind that the primary reason for such investigation is the need to inform strategies to prevent harm to the health, safety

and well-being of workers. However, if the current recorded/reported OHS indices used by GNTs are incomplete indicators of workers' health experiences, they are of little use in informing the systems in place to manage these aspects of prevention. Since wider research on restructuring has demonstrated workers' health to be especially vulnerable in situations not dissimilar to those found in container terminals, there is a strong case for ensuring better intelligence of the situation in the terminals. As we discuss further below, current approaches to health and safety management in all the terminals we studied have a strong focus on safety issues and pay only limited attention to health. In terms of their future development, therefore, a better understanding of the health effects of work in the terminals would seem to be useful.

Our findings further indicate that, while some degree of quantitative understanding of the health effects of work in container terminals is important, it is also necessary to understand why these health effects occur. To achieve this may require greater focus on listening to workers' and managers' experiences of their work and of the operation of the current processes adopted in managing health and safety risks in container terminals.

8.3 Managing safety and health in the terminals

Our global scoping of trade union perceptions of health and safety management in container terminals operated by GNTs and our case study interviews suggested that the terminals had broadly similar health and safety management arrangements and systems in place. They followed a fairly standard model that was predominantly behaviourally based, with a significantly stronger emphasis on safety than on health; though there were also occasional examples of extensions to cover physical areas of health, such as MSDs. These systems and arrangements were generally instigated at the global level, but there was usually room within them for local (i.e. terminal level) adaptation. In the case studies, interviewees identified the experience of serious (generally fatal) incidents in their own and nearby terminals as important drivers of local adaptations to the safety management systems adopted in their terminals.

There were, however, a host of situational influences which also affected the way in which the management systems were implemented and operated, which were found in the varied resilience of existing practices and the extent of regulatory scrutiny. For example, in some cases the terminals were strongly influenced in their

practices by the existence of a wider Port Authority/Trust in the port of which they were part; in other cases, while such an Authority/Trust existed, its influence was relatively minor; while in still further cases the terminals appeared to operate in the absence of any such wider institution. Another important influence was found in the extent and resilience of the labour relations practices and institutions in place in the situations into which the GNTs had moved.

There was a widely held view within most of the terminals that the safety management systems had improved significantly in recent years both in practical terms, and more significantly, in relation to the priority afforded to safety. There was also agreement that safety training was now widely provided as part of the management systems. This was especially the case in relation to induction training, which was provided in all the terminals, though less so in relation to on-going safety training, where the practice was much more varied and less systematic. In virtually all cases, however, the focus of training was on safety as opposed to health.

For managers, the safety management system was the effective central means of addressing health and safety issues in the terminals thus achieving improved health and safety outcomes. For the workers, however, the safety management system was often seen as too narrowly conceived and peripheral to the main causes of injury and ill-health at the terminal and because it did little to address these causes (which were deeply embedded in the business model that informed the operation of the terminals), they did not regard it as of central significance in the prevention of harm to their health and safety — therefore felt it was only partially successful in this respect.

There were, then, a number of significant differences between managers and workers concerning the relevance, operation and effectiveness of the arrangements to manage health and safety. They are important enough to warrant further discussion in relation to wider understandings concerning health and safety management and in particular concerning the limitations of the behaviour-based approaches that were evident in all of the terminals. Such a wider discussion helps to explain some of the contrasts in the perceptions of risks, the operation and effectiveness of health and safety management and the challenges for representation and consultation on health and safety that we have reported in detail the previous three Chapters.

8.3.1 The limitations of behaviour-based safety management systems

Health and safety management systems are ubiquitous in larger organisations worldwide. They are, however, not uniform. In some countries they are specified in regulation, in others they are adopted voluntarily but usually as a means of complying with regulatory standards. The term safety management system is in such common usage that its meaning has come to embrace a host of very different practices. Such systems are also controversial, being regarded by some as a kind of universal panacea to solve all the problems of preventing injury and ill health at work, while others see them more in terms of the insidious ways in which companies try to exert unilateral control over their workforce and avoid making arrangements to facilitate consultation with workers' representatives. There is a substantial literature in which the different approaches to health and safety management systems is discussed (see for example, Dalrymple et al 1998; Frick et al 2000, Frick and Kempa 2011, Hopkins 2000, 2005a and b; Kogi 2002 and Dejoy 2005, to name but a few). There is also a substantial literature in which attempts to measure the effectiveness of such systems and determine what makes them effective are reported (see for example, Bennet 2002; Gallagher et al 2003; Robson et al 2007). There is no space here to discuss this important literature; however one thing that emerges from it is the clear idea that among the different kinds of health and safety management systems, each have particular strengths and weaknesses.

As we have noted, the systems in place in all of the terminals we studied were derived from similar models adopted by the terminal operating companies at corporate level. In the terms of the discourse on approaches to health and safety management they were all voluntary systems clearly characterised by their behaviour-based approach. Frick and Kempa (2011) write that in such systems:

'Safety is given much more attention than health, despite the fact that diseases cause far more ill-health than accidents do. The prevention described more often revolves around control of 'safe' procedures than the prescribed upstream prevention of eliminating risks at the design stage. And the worker participation described in these examples is more a top down communication on why and how to obey management safety procedures than a genuine dialogue between management and workers on ends and means in a MS

[Management System] which aims to reduce occupational risk.'

This is a description that resonates well with the systems described in Chapter 6. It is also helpful in beginning to understand some of the concerns expressed by workers and their representatives about their limitations. There was clearly a bias in the prevention systems in place in all of the terminals towards safety procedural issues. This might be anticipated in a behaviour-based approach and it further reflects the limitations of the reach of such a system. For example, to address many of the potentially health-related concerns raised by workers and their representatives in the previous Chapters would require consideration of issues such as: the organisation of work and its intensity, who was responsible for undertaking it and the emphasis on increasing productivity strongly present in all the terminals. But these were all issues which were perceived to fall outside of the remit of the safety management systems in place. Again, this is not an uncommon problem with arrangements for managing safety. For example, as all three previous findings Chapters make plain, manning levels were of particular concern among workers' representatives in the terminals where they, and the workers they represented, often felt that they were insufficient and resulted in increased workloads and work intensity, and consequently also the propensity for unsafe behaviour associated with 'getting the job done on time' (see Nichols 1997 for an account of this as 'normal behaviour' among workers who are subject to these kinds of pressures).

Indeed this marginalising of safety by placing it in a safety management system is commonly found even in some of the more participative approaches to managing safety through 'systems'. For example, Nordic researchers during the 1990s coined the phrase 'side car effect' to describe what occurred in practice when the system for addressing health and safety (in this case a participative one such as is typical of the Nordic experience) was peripheral to that which dealt with core management issues (Frick et al 2000:254).¹⁵ However, whereas the behaviour-based systems in most of the terminals we studied provided no real platform for discourse on such matters (such as was typical for example on the Asian terminals in our study), in systems that facilitate greater involvement from trades unions and their representatives, or where unions are more embedded in the labour relations

¹⁵ Although Frick himself attributes the first use of this term to Aminoff and Lindstrom in 1981, it attained more widespread use during the 1990s.

structures and procedures surrounding them, there is greater capacity for raising these concerns, and by doing so raising awareness among managers to the need to give consideration to possible health-related consequences of their work re-organisation strategies.

Similarly, there were substantial differences in the appreciation of emphasis given to reporting incidents and unsafe practices in the safety management systems. Managers regarded these activities as essential elements of intelligence gathering and in the case of incident reporting, in some terminals they were linked with Key Performance Indicators (KPIs) for managers. Monitoring of unsafe practices was seen as an important means to change safe behaviours, leading towards improved safety outcomes in the future. In contrast, while many workers and their representatives regarded improved gathering of information on incidents and injuries as well as improvement in safety behaviour as desirable, they found weaknesses in actual reporting systems that caused them to doubt their usefulness and they were suspicious of systems in place to monitor unsafe practices because they felt they could serve to victimise workers. Workers in Europe also felt that elements of the systems for reporting near misses themselves contributed to non-reporting. For example, they suggested that systems that allowed workers to make near miss reports during work (when incidents were fresh in the mind) and without fear of exposing colleagues to disciplinary action would encourage more thorough reporting. As Chapter 6 shows, there was variation between the terminals in the extent of these feelings, with negative views being more commonly found in the Asian terminals. This may have reflected both the style of management in these terminals and the weak presence of trades unions, in combination with a large presence of contractor workforce on site who felt that their job security was particularly vulnerable to scrutiny from both their employers and the terminal management and its safety supervisors.

Here again the research literature on behaviour-based safety management systems points to similar concerns elsewhere. Recording and reporting systems for LTIs and for safety incidents more generally serves to emphasise and reinforce the organisation's focus on safety issues as opposed to those of work-related health. At the same time most reporting systems are to some extent flawed, with under-reporting or miss-reporting commonly experienced (Zoller 2003, Rosenmann et al. 2006). Where performance in these matters is linked to KPIs or incentive schemes, an unintended consequence may be that emphasis shifts to the requirement to produce documented evidence of the activity, rather than remaining focused on the reason for the activity itself, thus leading to further

distortion of the outcomes (Knudsen 2009). Moreover, an important element in the successful adoption of effective reporting systems is the amount of trust that exists between workers and their management concerning their purpose and the use made of them (Conchie et al 2006). Where such trust is low, as was clearly the case in some of the terminals, research evidence indicates that outcomes are likely to be poor.

This is even more the case in relation to monitoring safe behaviours. Such monitoring and its encouragement is fundamental to safe behaviour programmes, so not surprisingly it featured in the safety management systems in the terminals, particularly in the Asian ones. It stems from a belief that most accidents are caused by unsafe acts. While there can be little doubt that workers' unsafe acts *contribute* to accidents and are often the proximal cause of them, as most current accident causation theory argues, they are not the sole cause of such accidents, nor indeed necessarily the most important.¹⁶ It follows that attempts to eliminate unsafe behaviours are also not the most effective strategy to prevent them, as discussed below. In the case of monitoring such unsafe behaviours, however, and in requiring workers to monitor and report the unsafe behaviour of other workers, in situations in which trust between workers and managers is already low, such as in some of the terminal cases studies, there is even more likelihood it will fail to achieve the beneficial effects intended. As Hopkins (2005a) concludes in relation to behavioural safety programmes generally:

'Union opposition stems from distrust of the employer and a belief that this is just an attempt to shift responsibility for accidents from the employer to the workers. Where such distrust exists it is pointless for employers to seek to introduce such programmes. The evidence is that that they will fail.'

This was certainly the case in all of the terminals we studied and suggests that the strong emphasis on behavioural safety in company strategies to achieve improved safety performance, in combination with a seeming resistance to trade union recognition in some terminals operated by GNTs, may require some rethinking.

The limitations of behavioural safety management are perhaps most prominently displayed in its approach to

¹⁶ There is a substantial literature here too which is beyond the scope of this report to review in detail. However, key texts include: Bohle and Quinlan 2000; Hopkins 2000 and 2005b and 2000; Nichols 1997; Perrow 1984; Reason 1997

the investigation of accidents and incidents. Previous research literature indicates that the focus of accident and incident investigation in such programmes tends to be at the point at which the accident occurred. That is, it establishes the unsafe behaviour that was its proximal cause. Yet virtually all of the serious literature on injury and ill-health prevention argues for two basic principles that should apply in any investigation of a harmful incident if its causes are to be properly understood. The first is that there is seldom a single cause of an accident. Accidents are the result of multiple-causality and to understand them properly therefore requires an investigation that reaches backwards and upwards in the chain of causality to establish this network of causes (Reason 1997). Second, there is a widely accepted hierarchy of control for addressing workplace hazards in which the most effective control is to eliminate entirely the hazard in question. Further down the hierarchy, in order of decreasing effectiveness, come engineering controls, still further down are managerial and administrative control and the hierarchy ends with behavioural 'safe person' requirements, to use PPE and follow safety procedures, that are placed on individuals. These are acknowledged to be the least effective form of control. Yet these were the controls most prominently advocated in the safety management systems in use in the terminals.

It follows from this that if accidents and incidents are only investigated to the extent of establishing their proximal causes, they are likely not only to be incomplete explanations of causation, but also to result in only limited effective measures to prevent them. Yet as is clear from the discussion in Chapter 6, this was the common experience in the terminals and especially in the Asian ones, where behavioural safety programmes were most pronounced. Incident investigation served to establish who had done what and when, and whether any equipment failure had been involved, but rarely considered systemic causes or contributions to any human errors involved. We suggested in Chapter 6 that this seemed to be an almost inevitable consequence of the universal management conviction that following the safety management systems closely would mean that accidents simply could not occur and reflecting the widely held belief that all accidents are the result of workers failing to follow procedures — a conviction that is repeatedly refuted in the safety research literature (see Frick and Kempa 2011). As Fleming and Lardner (2002) put it in a research report intended to be supportive of behavioural safety management:

'While a focus on changing unsafe behaviour into safe behaviour is appropriate, this should not deflect

attention from analysing why people behave unsafely. To focus solely on changing individual behaviour without considering necessary changes to how people are organised, managed, motivated, rewarded and their physical work environment, tools and equipment can result in treating symptoms only, without addressing the root cause of unsafe behaviour.'

We would go some way further than this and argue that the safety management systems in place in the terminals we have studied have probably reached the limits of their capacity and require some serious remodelling if they are to be fit for purpose in achieving an improving trend in both health and safety outcomes for workers in container terminals. We think it would be advisable for managers in considering such remodelling to take greater account of the perceptions and concerns of workers and their representatives. There are indications that this occurs in some terminals more than others at present and that the extent to which it does depends significantly on the resilience of the institutions and procedures for labour relations already in place in the ports in question.

Key elements of such remodelling might aim to ensure the centrality of health and safety issues in the core management activity of the terminal operators and in parallel, the establishment of robust and well-supported arrangements for consultation with workers' representatives concerning them. This could be especially relevant in gaining a better understanding of the likely consequences of further restructuring and reorganisation. While it seems unlikely that complete consensus would necessarily always result from engagement between managers and workers representatives concerning productivity and health and safety, a greater understanding of the problems and challenges to be overcome is more likely to emerge from such dialogue than it is from unilateral management action. In this respect it is also worth bearing in mind that health and safety consequences of work reorganisation and restructuring are also cost consequences and that failure to protect the health and safety of workers is ultimately an expensive business. Where conventional behaviour-based safety management systems do not lend themselves especially well to such considerations, other forms of systematic health and safety management may be preferred.

8.3.2 Alternatives to behaviour-based approaches?

As the previous section has demonstrated, the weaknesses we have identified in the safety

management systems in the terminals are in the main weaknesses that previous research has argued to be inherent in behaviour-based approaches to health and safety management systems. There has been a debate of long standing concerning the best approach to standardising the management of health and safety. The dilemmas in attempting to reach common ground in this respect are evident from the failure for many years of ISO to agree an equivalent standard for health and safety management to those it has in place for environmental management. This is not the place to rehearse the details of the debate that has led to this impasse. Suffice to say that many of the issues that it raises are also similar in kind to those we have found evident in the terminals we studied. They include, for example, the extent of the role for representation and consultation with workers, the balance between safe place and safe person strategies, the centralisation of the approach in relation to core management functions and how to best address health as well as safety in such systems.

By way of achieving a compromise position to help resolve the need for a workable international standard, the ILO produced its own guidelines in 2001 which, although not adopted by international standardisation bodies, nevertheless are widely adopted by many countries as recommended procedures (such as, for example, by Argentina, Brazil, China, Indonesia and Ireland), used by some multinational companies, such as Volkswagen and ABB, and have acted as a template for guidelines on management systems produced by some non-governmental OHS organisation such as JISHA in Japan (Frick and Kempa 2011). This is partly because, unlike many private safety management systems, the ILO guidelines stay close to regulatory standards.

They ILO guidelines address many of the issues we have discussed in the previous pages and as an internationally agreed standard produced by a tripartite international body they provide some useful points for consideration when reviewing the approaches to health and safety management currently in operation in the terminals we studied. For example, ILO-OSH 2001 encourages the integration of OHS management system elements into overall policy and management arrangements, as well as stressing the importance that at the *organizational* level OHS should be a line management responsibility and should not be seen as a task for OHS departments and/or specialists. Like most safety management systems it follows the Deming quality management cycle of Plan-Do-Check-Act, in five sections, namely Policy, Organizing, Planning and Implementation, Evaluation and Action for Improvement. 'Policy' contains the elements of OHS policy and worker participation. It is

the basis of the OHS management system and sets the direction for the *organization* to follow. 'Organizing' contains the elements of responsibility and accountability, competence and training, documentation and communication. It makes sure that the management structure is in place, as well as the necessary responsibilities allocated for delivering the OHS policy. 'Planning and implementation' contains the elements of initial review, system planning, development and implementation, OHS objectives and hazard prevention. Through the initial review, it shows where the *organization* stands concerning OHS, and uses this as the baseline to implement the OHS policy. 'Evaluation' contains the elements of performance monitoring and measurement, investigation of work-related injuries, ill-health, diseases and incidents, audit and management review. It shows how the OHS management system functions and identifies any weaknesses that need improvement. It includes auditing, which should be undertaken for each stage by persons who are independent of the activity being audited. 'Action for improvement' includes the elements of preventive and corrective action and continual improvement. It implements the necessary preventive and corrective actions identified by the evaluation and audits carried out. It also emphasizes the need for continual improvement of OHS performance through the constant development of policies, systems and techniques to prevent and control work-related injuries, ill-health, diseases and incidents. It argues that communication channels between the different levels of the organization must be effective and go both ways, meaning that OHS related information and concerns conveyed by shop floor workers should be given due consideration and allowed to reach higher management.

The ILO guidelines are quite clear that the occupational safety and health management system will not function properly without the existence of effective social dialogue, whether in the context of joint safety and health committees or other mechanisms such as collective bargaining arrangements. Workers and their representatives should be given the opportunity, through direct involvement and consultation, to fully participate in the management of OHS in the organization. It argues that a system is successful only when all the stakeholders are given defined responsibilities in running it.

A major principle of OHSMS is the establishment of a line of management responsibility, including the meaningful involvement of all employees at all levels in the organization, and with defined OHS responsibilities; but the point is forcefully made by the ILO that a system run solely by managers without input from workers at lower levels in the hierarchy is bound

to lose its focus and fail. It also stresses that for joint OHS committees and similar arrangements to be effective, it is important that adequate information and training is provided, that effective social dialogue and communication mechanisms are established, and that workers and their representatives are involved in the implementation of OHS measures (ILO 2011).

Importantly in relation to experiences in some of the terminals studied, the ILO notes that, although participation in OHSMS is usually understood to refer to employers and workers in the organization, participation in the sense of information exchange and communication should also concern outsourced and external stakeholders in the implementation of measures. It suggests that these may include, among others, regulators, subcontractors, clients and enterprises in the supply chain, and consumers. This is an issue to which we turn next.

8.4 Outsourcing operations and the implications for health and safety

Outsourcing of terminal operations to contractors was a major source of concern for the trade union representatives in the global survey reported in Chapter 3. The extent of the outsourcing was also one of the significant differences between the European and Asian terminals. Not only was outsourced labour much more commonly used in the Asian terminals, but in addition the extent to which these contract workers were covered by their terminals' health and safety management systems and arrangements was less consistent and much less thorough than the arrangements for the directly employed staff. This is a finding which is also not uncommon in other industries in which a substantial amount of work is outsourced but undertaken on the same worksite as that which continues to occupy directly employed personnel (see Walters et al 2012 b).

In the global survey of trade union respondents, they talked about contractors having underdeveloped systems and arrangements in place for the health and safety of their workers, posing an increased risk to these workers and also to directly employed terminal staff with whom they often worked in close proximity. They suggested the existence of situations in the terminals, in which contractor labour frequently experienced lesser levels of health safety and welfare arrangements than those enjoyed by directly employed workers. Workers and their representatives in the case study terminals where there was any significant experience of contractors reported similar experiences and these were confirmed by interviews with workers

and their representatives who were employed by contractors. Some managers were also aware of less than satisfactory arrangements for health and safety management among contractors. They believed that incidents involving contractors were treated seriously and breaches of health and safety requirements could lead to individuals among the contractor workforce being barred from entering the terminal (although disciplinary matters were usually left to contractors to resolve themselves) and ultimately, unsatisfactory safety performance could lead to termination or non-renewal of the contract.

However, in the terminals with the most substantial experience of outsourcing there appeared to be no explicit strategy or procedures for ensuring compliance by the contractors on site with the requirements of the terminal health and safety management system, nor were there detailed specifications in contracts concerning of the health and safety arrangements required of them in the delivery of the contract (beyond provision for pre-employment medical checks for contractor workers), or any examples of contractors being required to furnish pre-contract evidence of the health and safety management and their health and safety performance. Finally, and not surprisingly, given these observations, we found no examples of monitoring or inspection of contract compliance among contractors with the terminals' arrangements for health and safety.

The senior management in both the Asian terminals acknowledged that working with contractors was challenging for health and safety management, but they clearly felt that continued use of directly employed labour was simply not a business option and regarded questions concerning its continued use as naïve. Instead they expressed strongly held views on the benefits of cost savings and the capacity to impose tight price and delivery conditions on contractors, while extolling the virtues of the wider business sense behind contracting out. The mirror image of these views was reflected in the concerns of trade union representatives, both globally and in the Asian case studies we investigated, who regarded tight controls on pricing of contract work by the terminal operators as responsible for driving down the price of successful tenders to levels where the contractor could not afford to implement effective arrangements for the health and safety of their workers. They suggested this created situations where contracts were awarded on the basis of price without due consideration of the capacity of the contractor to deliver suitable arrangements for health and safety. Or that it resulted in contractors 'cutting corners' on health and safety during the delivery of the contracted work in order to meet the price and time limits specified by the terminal operators in the contracts.

There is a substantial body of research on the health and safety consequences of contracting out (see reviews by Quinlan et al 2001; Quinlan and Bohle 2008 and Walters and James 2009 for comprehensive recent accounts of this work). In short it suggests that the dynamics of supply chain relationships created by outsourcing of work generally lead to adverse health and safety effects. The ways in which they do so are connected to how these dynamics serve to exert downward cost pressures on suppliers, thereby leading them to adopt more intensified or casualised employment regimes and, more generally, to engender poorer quality and more fragmented health and safety management among contractors (Walters and James 2011). However, in certain cases, the same research also shows that the potential for such negative 'indirect' effects of such relationships may to some extent be offset by attempts by those at the head of supply chains to more directly influence how health and safety is managed by suppliers. Such attempts vary in terms of the form and foci they encompass but include procurement strategies that use health and safety standards to select contractors, or certification schemes aimed at ensuring the competence of contracting organisations and those working for them, and the imposition of requirements in contracts relating to general management including that of the use of risk assessment and communication procedures on multi-contractor worksites. A number of examples of these practices can be found especially in industries like construction, transport, food and clothing, where arrangements for contracting and outsourcing work are of longstanding in the way work is structured and organised. Where such arrangements appeared to have positive results, a key feature of the initiatives concerned was their incorporation of internal regulatory arrangements whereby suppliers were subjected to meaningful processes of supervision and control by the heads of the supply chains concerned or by their agents.

In a recently published study of such processes in two very different industries — construction and merchant shipping — Walters et al (2012b) demonstrate that empirical results broadly support these propositions concerning the contexts of supply chain effects. They further show that such effects are neither necessarily solely vertical within supply chains, nor only in one direction. Thus, they showed that in the construction industry there were substantial positive effects which promoted good practice among organisations competing for business at the same level; and in the container trade in the maritime sector some upstream as well as downstream influences were observed at work in the supply chains involved. What struck these researchers most forcefully about the nature of most of the relationships in which leverage on OHS was

delivered through procurement strategies was the high degree of power imbalance between procurers and suppliers and the sense that the latter believed they had little choice other than to follow the requirements of the former if they wished to continue their business relationship. There were also some negative consequences arising from the interventions in which procurers exploited this power in the conditions they imposed upon the affairs of their suppliers. In particular, additional burdens imposed upon lower tier suppliers to deliver evidence of compliance with procedures that were merely the requirements of 'audit trails' rather than good OHS practices raised the possibility of them acting to indirectly lead to poorer but unmonitored health and safety outcomes among workers at these levels.

It is therefore clear that despite the overwhelming majority of outsourcing situations being likely to contribute to poorer health and safety arrangements and performance among organisations to which work is outsourced, and the added complications of multiple employer worksites which also result, there is a potential for these situations to be exploited by the heads of the supply chains involved in ways that may be beneficial to the health and safety of the workers of contractors. This is the current situation in the container terminals where there is a significant level of contractor activity. However, there was no evidence that the terminal operating companies or their local management were aware of this potential or implemented any of the strategies with which it could be realised.

8.5 Conclusions and ways forward — filling the gap

In the course of writing this report we have repeatedly emphasised that it represents no more than an indicative study of the arrangements for health and safety at work in container terminals operated by the largest of the GNT operating companies in the world. We do not claim to have produced definitive results. We nevertheless feel that the ground covered in previous pages provides a rich account of the experience of workers and managers of health and safety in container terminal operations, in which several themes are significant. They are linked by an omnipresent experience of change in the industry and its economic, social and regulatory contexts. Such change affects almost every aspect of the conduct of business, work and employment in the sector and it would be surprising indeed if it did not also affect perceptions of risks to health and safety and the arrangements to manage them in ways that best

protect the health, safety and well-being of the workers employed in container terminals.

As well as the overarching influence of change, there was also a strong sense of the differences in perceptions and experiences of health and safety issues that emerged among respondents in the study. As previously noted, such differences were apparent between experiences in many aspects of the operation of health and safety arrangements and their wider contexts in terminals in countries with advanced economies when compared with those located in advancing economies. Not surprisingly, there were further differences between workers and their representatives and the managers in the terminals concerning perceptions of the nature of risks to health and safety as well as the strategies in place to address them. Such differences suggest some significant areas for further research.

Questions therefore arise in relation to how best to understand and address 'change' and 'difference.' They imply a need to address consequences for health and safety on a variety of issues and perspectives in relation to the nature of risks, their underlying causes and preferred solutions. In particular, they include questions on how best to manage the consequences of changes in the structure, operation and ownership of terminals for the health, safety and well-being of workers and how to most usefully understand differences identified in the present study in this respect. Differences, for example, that appear to exist between available data concerning health and safety performance and the experiences and perceptions of workers concerning their own health, well-being and the risks they experience in their work in the container terminals. Further differences have been identified in practices and experiences of health and safety in terminals located in advanced market economies and those situated in advancing economies, and the reasons for them are important to understand. As indeed are the reasons for the differences also seen between the experiences of directly employed workers and those of the workers of contractors working at the same terminals. In these respects there is a need to understand the significance of differences in perceptions of what constitutes an appropriate approach to managing health and safety systematically, especially in relation to the role of safe person and safe place strategies, as well as that of the representation and consultation with workers in these matters.

Our findings are therefore suggestive of several areas of concern that would benefit from further investigation. These include:

- The work-related health experience and issues for dockworkers in container terminals globally. Further study of this is warranted in the light of the finding that recorded/reported OHS indices used by GNTs may be incomplete indicators of worker OHS experience and especially of their health experiences, which wider research on restructuring has demonstrated to be especially vulnerable in situations not dissimilar to those found in the organisational development of employment in container terminals.
- The reasons for differences between these experiences among contract workers and directly employed workers in all terminals, and most particularly in terminals in poorer countries, are other areas that our indicative findings suggest would benefit from further research. This would help establish more effective ways of protecting and improving the health and safety of *all* terminal workers.
- The contrast between the comparative commonality of the features of OHS management strategies adopted at global level and the diversity of operational outcomes at the level of the container terminals – in order to better understand the importance of situational and contextual influences.
- Reasons for variation in the role of representation and consultation in the approaches to health and safety management. Given that the wider research literature indicates that this role is important in improving health and safety performance, further research work would seem warranted in order to discover how such representation and consultation might operate more effectively and more universally in container terminals globally.
- Strategies for ensuring best practice in health and safety management on multi-employer worksites, which utilise leverage in relations between contractors and co-ordinate OHS management between multiple employers in situations in which the outsourcing and increased use of contractors are significant determinants of the structure and organisation of work.

A follow-up project has been planned to significantly develop the existing research in these ways. The existing study gives a strong foundation for the new research.

To best address the development of the existing findings, the planned follow-up study, which will be carried out over a sufficient length of time to allow adequate data collection and analysis, will take a multi-method approach. It will be developed in the light of the findings of the current project, which suggest that the safety and, especially, health data collected by GNTs may not fully reflect workers' OHS experiences and in particular in relation to detailed data on occupational health, including the three problems commonly reported to us by dockworkers: fatigue, stress and musculoskeletal disorders (MSD). The focus of the follow-up study, therefore, will be on OHS experiences, including: work-related health and safety, particularly fatigue, stress and MSD, and working conditions and perceptions of OHS provision.

The present study has provided a valuable understanding of current practice in relation to

managing risks to health and safety in container terminals operated by GNTs. It seems clear that both the management of GNT companies and the trade unions representing dockworkers globally are committed to ensuring effective health and safety management. It is therefore anticipated that the indications of the challenges confronting best practice and the means of addressing them presented and discussed in this study will be useful supports for the development of future strategies in this respect. The follow-up research will add breadth and depth to the findings of the present study, providing a robust basis on which to further develop effective strategies to improve health and safety in container terminals in times of change. It is also hoped that this further research will enjoy the same levels of enthusiastic support from the companies and the trades unions involved which made the present study possible and on which the success of a future studies will depend.

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Glossary

CBA	<i>Collective Bargaining Agreement</i>
COSHH	<i>Control of Substances Hazardous to Health</i>
GNTs	<i>Global Network Terminals</i>
HR	<i>Human Resources</i>
ILO	<i>International Labour Organization</i>
ISO	<i>International Organisation for Standardisation</i>
JISHA	<i>Japan Industrial Health and Safety Association</i>
KPI	<i>Key Performance Indicator</i>
LTI	<i>Lost Time Injury</i>
LTI	<i>Lost Time Injury Frequency Rate</i>
MSDs	<i>Musculoskeletal disorders</i>
OHS	<i>Occupational Health and Safety</i>
OHSMS	<i>Occupational Health and Safety Management Systems</i>
PIN	<i>Provisional Improvement Notices¹⁷</i>
PPE	<i>Personal Protective Equipment</i>
QC	<i>Quay Crane</i>
RTG	<i>Rubber Tyred Gantry</i>
RTGC	<i>Rubber Tyred Gantry Crane</i>
SOP	<i>Standard Operating Procedure</i>
TT	<i>Truck Trailers</i>

¹⁷Provisional Improvement Notices and the accompanying right to direct that dangerous work cease. The same Act also contains provisions for trade union officers or employees with work health and safety entry permits to investigate suspected contraventions of the Act or to consult and advise 'relevant workers' (that is, workers who are members, or eligible to be members, of the union and who work at the workplace) on health and safety issues. If contraventions are found the union entrant has the right to warn persons at risk of the health and safety risk. These provisions are held to be important because they vest enforcement powers in the workers who bear the work health and safety risks of work. They also increase the accountability of regulators and of employers (Johnstone et al 2012).



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