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## **GUIDANCE ON CHANGE OF OWNERSHIP IN HAZARDOUS FACILITIES**

**Series on Chemical Accidents**

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No. 31

GUIDANCE ON CHANGE OF OWNERSHIP IN HAZARDOUS FACILITIES

**IOMC**

**INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS**

A cooperative agreement among **FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD**

**Environment Directorate**

**ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT**

Paris 2018

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## *Foreword*

The OECD guidance on change of ownership in hazardous facilities is a concise document providing a framework to assist stakeholders to identify, understand and minimise the risks before, during and after a change of ownership at a hazardous facility. It aims to help make the change of ownership a better informed process. It provides a set of self-assessment questions for the original owner and for the new owner so that they can evaluate how well their organisation is managing the ownership change; and a “template for transparency” as a structured approach to carrying out technical due diligence with a list of documents and information which those selling a facility should be expected to provide. The guidance also lists factors for the regulators to consider before, during and after the change of ownership.

The project on change of ownership in hazardous facilities, the conclusions of which are presented in this guidance, was developed within the framework of the OECD Working Group on Chemical Accidents. The project and development of the guidance was most particularly conducted by a steering group composed of: Ragnhild Larsen and Torill Tandberg, Norwegian Directorate for Civil Protection, lead country for the project, Carina Fredström, Swedish Civil Contingencies Agency, Rachel McCann, Health and Safety Executive, United Kingdom, Bill Gullede, American Chemistry Council (representing the Business and Industry Advisory Committee to the OECD), Graham Dalzell (consultant), Dave Nockels (consultant), Marie-Ange Baucher and Peter Kearns, OECD. Throughout the project the steering group has received valuable input from Industry, and from the members of the OECD Working Group on Chemical Accidents. The Joint Meeting of the Chemicals Committee and the Working Party on Chemicals, Pesticides and Biotechnology agreed to the declassification of this guidance on March 2018.

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## CHARACTERISTICS OF GOOD OWNERSHIP CHANGE





**SAYING NO**

Deciding not to take over a premises or facility following an assessment of the risks, plant integrity and responsibilities.



**OPENNESS**

A willingness by all parties to share openly all information relating to the hazards and systems to manage them even if it could affect the transaction.



**COMPETENCE**

Experience of the new owners both in the management of major accident hazards and in the chemicals and processes in the facility.



**BUY IN**

Acceptance, commitment and enthusiasm by the retained personnel for the change of ownership.



**MOTIVATION**

Positive reasons for the disposal and acquisition of the facilities.



**TIME**

Time to study, review and assess the plant, people and processes prior to committing to take over the facility.



**SMOOTH TRANSITION**

Progressive and orderly change to new management systems building upon what works and is good practice.



**MANAGEMENT OF CHANGE**

The ownership change process has been subject to formal review under both the disposing and acquiring companies.



**UNDERSTANDING**

An understanding of the risks and hazards by the current owner and a similar understanding by the prospective owners before they acquire the facilities.



**CONTINUITY**

The retention of knowledge, key personnel and effective management systems.



**INVESTMENT**

Investment in people, time, effort and plant before during and after the change.

## Introduction and purpose of the guidance

Ownership change transactions are very common in hazardous facilities and have increased in recent years. Ownership change potentially affects key elements of safety management and can lead to a change in the management of the risks at a facility, either positively or negatively. Ownership change can be well managed if a good level of stability is kept in the management of the facility throughout the transaction and can even result in an improvement of the safety condition of the plant as a result of the new owner's actions. However, in some cases, the negative effects of a change of ownership can be severe and significant, creating uncertainty in the companies involved and leading to an increase in occupational, process safety, environmental and major accident risks. This may be a single issue or a cumulative effect and could manifest itself in either the short or long term. There can also be significant liability issues, in particular environmental, that may fall on the new owner following the acquisition.

Stakeholders involved in an ownership change (see Figure 1) should be aware of the hazards that those facilities are capable of posing, and understand that these hazards can lead to accidents with effects that extend far beyond their boundaries potentially affecting the public and the surrounding environment. They should also understand the responsibility they have for preventing such accidents and mitigating their consequences. **Before, during and after the transaction the management of safety should be a priority for all.**

This guidance is a high level document prepared as part of the OECD Chemical Accidents Programme. It aims to:

- raise awareness that ownership change is not just a business affair but can be associated with an increase in risk at a facility;
- give general principles for supporting a safe ownership change that are accessible to a non-technical audience;
- give a framework to assist all stakeholders in identifying, understanding and minimising the main risk drivers before, during and after a change of ownership at a hazardous facility;
- support stakeholders involved in ownership change in identifying the main questions necessary to help make the change of ownership a better informed and transparent process with the goal of preventing potential accidents associated with ownership change;
- complement the OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response<sup>1</sup>.
- For the purpose of this guidance, a hazardous facility is one that uses, stores, processes or produces dangerous substances and has the potential to cause a

chemical accident<sup>2</sup> that could result in serious harm to human health, the environment or property.

### References

1 OECD (2003), Guiding Principles for Chemical Accidents Prevention, Preparedness and Response, OECD, Paris, see <http://dx.doi.org/10.1787/9789264101821-en>

2 In the OECD Guiding Principles, the definition of a chemical accident is “any unplanned event, such as an emission, fire or explosion, involving hazardous substances, that causes, or is likely to cause, serious harm to human health, the environment, or property. This excludes any long-term events (such as chronic pollution)”, see <http://dx.doi.org/10.1787/9789264101821-en>

## Use of the guidance and target audience

### Structure and use

This guidance gives a framework by which the main parties involved can openly acknowledge and discuss the potential for major accidents on the site to help the prospective new owners to understand the risks, take them into account when deciding whether or not to take over the facility and to fulfil their legal and moral obligations to manage them. It describes the responsibilities of the current and prospective new owners, the role of the regulator and the relationship with other parties who may contribute to the process.

Parties involved in the ownership change may not have the ability, for example because of time constraints, to carry out all the steps that are suggested in the guidance. Parties can choose those elements that are of most relevance to their purposes, for example according to the size and risk of the establishment.

The guidance lists both the **direct and underlying risk drivers**; the former relating to the hazards themselves and the people, processes and plant needed to manage them. The underlying drivers are the less tangible or “soft” issues relating to the reasons for disposal of the facility and the attitudes and competence of both the current and prospective new owners.

**A set of self-assessment questions** is given for both the current and prospective new owners to help evaluate how well their organisation is managing the ownership change. These are divided into underlying questions and questions directly relating to hazard management. A traffic light system is suggested to give an overview of the self-assessment.

**A list of factors** for the regulators to consider before, during and after the change of ownership is also provided.

**A template for transparency** is offered as the basis of a structured approach to carrying out technical due diligence. It is a list of documents and information which those selling a facility should be expected to provide. The template for transparency is provided as a workbook to support the self-assessment questions in the detailed assessment of the direct risk drivers such as the condition of the facility and the effectiveness of the safety management systems.

### What types of ownership change transactions does this guidance cover?

This guidance covers all types of ownership change including mergers, acquisitions, hostile takeovers, break up of a large corporation, divestment and management-/employee buy-out. For all the above mentioned types of transactions, a differentiation should be made between those ownership changes that will result in a change in the management of

the operation of the facility and those that will leave the existing personnel and management systems in place.

### **Target audience**

This guidance is aimed at stakeholders likely to be engaged in the change of ownership at a hazardous facility, and particularly at small and medium sized companies. It is also aimed at companies less familiar with major hazards - that may not have dedicated technical resources - this guidance may assist such companies when engaging third parties to manage aspects of the transaction. Senior leaders are also a target audience for this guidance as they have a critical role in ensuring that the risks from the major hazards are fully understood and effectively managed during and after ownership change.

## The importance of a well-informed change of ownership

Any oversights that might occur during change of ownership in hazardous facilities can potentially have disastrous consequences that may result in major accidents causing harm to individuals, the environment, and the economy. Major accidents can also directly affect the business in itself, causing major financial loss, serious reputational damage and direct and indirect sanctions depending on regulatory requirements. “Safety risk” and “commercial risk” decisions about a potential acquisition are intrinsically linked. The Texas City disaster in March 2005 that killed 15 workers and injured 180 others is one example of an accident where the technical report directly implicated a poorly managed change of ownership as a contributory factor. This accident, and others, highlighted a failure to appreciate the consequences of changes, and in particular the impact of organisational changes.

This can be due to:

- a lack of understanding of the potential for harm of facilities and the processes involved are capable of posing;
- a focus on financial consideration during and after the change (for example trying to maximise production or lower costs);
- a lack of understanding, continuity of and/or investment in process safety and risk management by the new owner;
- a lack of familiarity by the new owners with the regulatory and national expectations of the country in which the facility is operating;
- a lack of awareness of possible differences in organisational culture and in the perception of risk and responsibilities across organisations;
- questions linked to hazards and process safety not be asked during the due diligence processes;
- the loss of key personnel;
- a lack of active commitment from the senior management.

A well-managed change of ownership can have positive impact on a business as well, with possible benefits including:

- increased awareness of potential costs arising from the design and condition of the facility;
- continuity of operation and risk management;
- appropriate focus on plant integrity and maintenance;
- continuity of key personnel;

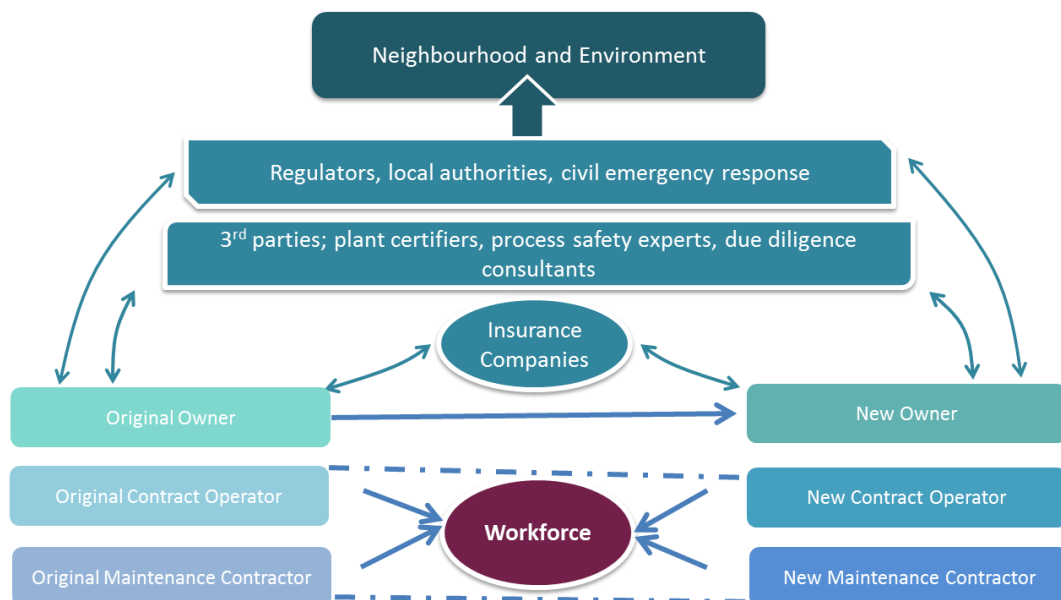
- awareness and planning for implementing process safety.

New owners who are well informed about process safety risks and the resources needed are best capable of properly managing their new responsibility. If they are not specialists, they should consider obtaining the required expertise to support them before, during and after taking over the responsibility of a plant. Anyone planning to acquire a hazardous chemical facility should assess their own ability to manage the hazards. Saying no may be the right decision following an assessment of the hazards, risks, plant condition and management systems, and their own capabilities and responsibilities.

## Relationships and responsibilities in the change of ownership

There are a number of stakeholders and third parties involved in an ownership change transaction as shown in Figure 1 below. The main players are the **current** and **prospective new owners**. Current and new owners may be specialist companies with significant industry background or “non-specialist” companies who may own a more diverse business portfolio.

**Figure 1. Stakeholders in the Change of Ownership**



Source: OECD

The **workforce** and **management** are the most directly affected as they not only operate and maintain the facility but are those most likely to be exposed to the effect of an accident and to have to respond to it. The workforce may be employed directly by the owner or through a contractor. Engineering and maintenance tasks are increasingly being outsourced at hazardous facilities and contractor personnel may be as much affected as the regular workforce. The workforce will take instruction and be governed by the risk/reward strategy of the owner and will reflect the owners’ attitudes to safety. The workforce and management will have a key part to play in facilitating a smooth handover when the change occurs. It will be prudent for the original and new owners to inform and consult with the workforce or the workforce representatives both to give reassurance and to provide continuity before, during and after the handover.

Many facilities will have schemes of certification and verification both for plant and management systems. These are a valuable source of information on the facility,

processes and people needed to manage the sites safely. Any **third parties** carrying out this service should have specialised knowledge and be able to confirm or assess the capability of these systems both on instruction of the current owner or at the request of the prospective new one. Third party services may transfer from one owner to the next in which case there is continuity and the opportunity to highlight any concerns during the transition.

Similarly, **insurance companies** and other risk-transfer or risk management companies will have assessed or be able to assess the facilities using their own methods and can give a valuable insight into the inherent risks from the type of processing and the actual risks based on the conditions on site.

The **regulator** may have a direct or advisory role depending upon whether the national regulations require notification and/or approval of a change of ownership. The primary role and responsibility of the regulator is to regulate the safety of the site and to verify that the site owner has a safety management system in place that protects the workforce, the public and the environment from harm. They may be required to be informed beforehand, to review the prospective new owners suitability and approve the change or they may have no authority other than to inspect the facilities and/or to evaluate the safety management system of the new owner at the next due date. A prospective new owner would be expected to approach the regulator for information about the site, and the regulator could inform the prospective new owner about coming expectations on active integration.

## The different steps towards acquisition of a facility

### Technical due diligence (understanding the risks)

The first step, happening before the change of ownership takes place, is the technical due diligence. Technical due diligence is an examination of the facility and its documentation to enable the prospective new owner to take an informed decision on the takeover. It enables it to:

- collect information on the history of the site, e.g. past accidents, near misses,
- pollution around the site;
- identify any environmental liabilities;
- identify the major accident hazards, whether these are being effectively
- managed, and the resources needed to do so;
- verify the status and integrity of the site;
- identify any deficiencies and rectification costs;
- identify any constraints or limitations on future operation.

The technical part of the due diligence should include both the review of relevant documentation as well as a site visit with discussions with operators, technicians and supervisors. The prospective new owner might have limited time/ possibility/access for review on site but to the best of its ability should try to have a complete picture of: **occupational safety; process safety; environmental issues and site integrity**. Because of time constraints, the physical checks may be audits rather than a complete physical review but it is critical that a visit on site be made if possible.

The availability, detail and quality of the information can be an indication of the attitude, competence and responsibility of the current owner<sup>1</sup>. A list is available on page 34 (Template for Transparency) of all the documents that may be requested by the prospective new owner from the current owner during due diligence.

It should be noted that it is in general difficult for a prospective owner to have detailed information about a facility before a transaction is done - more can be achieved later and used to negotiate the deal's conditions.

Ideally much of the review of the documents and the facility should be carried out by experienced engineers and managers. It may be beneficial to augment this with process safety, consequence modelling and risk management expertise. For some companies this might be done in house, whereas others might have to engage third parties to get the appropriate expertise. In the latter case, companies should not the need to be an "intelligent customer", ensuring that all key elements in the due diligence process are being taken into account by any third party personnel they have engaged.

## Assessment

The decision to take over responsibility for a major hazard site is critical and should not be taken lightly. It can affect the lives of those on site and living nearby, the environment, the financial future of the owner and the liability and freedom of those individuals who are deemed to be accountable.

The technical due diligence might conclude that the risks are too great and the investment needed to manage them exceed the benefits to the acquiring company resulting in a withdrawal from the deal.

## Preparation: gap analysis and priority settings

The results from the due diligence will allow the new owner to determine and mobilise the necessary resources for the integration of the new facility. It will allow setting up of a plan for the successful integration of the facility into the company, including the possible need to restore plant integrity, upgrade it to the new owner's standards, embed the new owner's management systems and process safety culture, and the financial investment needed. Ideally a plan should also be made to help monitor progress during the integration phase.

## Integration

Integration is a critical stage in the process during which the facility will transition from one owner to another. For a most efficient integration, the new owner should position experienced staff from the company on the newly acquired site from day 1. By occupying key positions on the new site, they will be able to integrate the new company's standards as well as national regulations most efficiently. This will also help to pass on directly the safety culture of the acquiring company and establish a direct communication with the staff already on site. Delays in implementing the change can impact the moral of the workforce, making communication with the personnel at this stage essential. Furthermore, there should be a clear statement made on what is good and what needs to be improved on site. Seeing improvements to the safety of the site can be a significant motivator for the staff, and they should be invited to discuss an eventual improvement plan. Employees' satisfaction and attitude after the change of owner can be checked through regular survey or other feedback mechanisms.

The key to a successful integration is to be on site and interact with people, in order to provide **consistency**, **assurance** and **culture**. All relevant corporate safety policies and guidelines for accident prevention, preparedness and response should be applicable to acquisitions.

## Implementation

The transition from one management system and culture to another will take time and should take account of the management of hazards during that period of change. Rectification of defects and the implementation of improvements may take longer and the risks may remain higher and possibly unacceptable until they are completed. It may be necessary to operate under tight restrictions or even shut the facility down until and/or when the work is being carried out.

### Note

1 N.b. In some types of ownership change, such as a hostile takeover, this may not be possible or severely limited.

## Drivers of risk associated to a change of owner in a hazardous facility

Ownership change can be well managed if a good level of stability is kept in the management of the facility throughout the transaction and can even result in an improvement of the safety condition of the facility as a result of the new owner's actions. However, if the process is not well managed, the condition and operation of the facility can start, or continue, to deteriorate during, and following the change of ownership. This section aims to highlight some of the main risk drivers that can lead the safety of a facility to decline following a change of owner.

There are two aspects relating to the risks and these can vary before, during and after the change of ownership. These are as follows:

### Underlying Risk Drivers

The underlying risk drivers are important but difficult to measure and assess. These include the attitudes and leadership of those in charge, the acknowledgement of the hazards, the commitment to manage them, the investment in safety and risk control, and the risk reward strategies of those involved in the transaction.

Underlying risk drivers can include the reason for the sale of a facility, the attitude of the current owner, and the type of takeover. Knowing this will enable the gathering of critical information on the potential risk drivers, for example:

- The reason for the sale and type of takeover:
  - The facility that is being sold may be old, outdated, or in a poor condition;
  - The facility may have suffered from cost cutting, lack of investment, lack of maintenance and / or under resourcing in the preceding years;
  - The facility may have become, or is threatening to become, uneconomic;
  - The sale may be the result of insolvency proceedings;
  - The current owner may not be fully aware of the risks and potential for harm on the site and have inadequate processes in place to manage them;
  - The site may be disposed by its current owner as it is considered to have too great a corporate risk for the rewards.
- The attitude, competence and resources of the prospective new owner, for example they:
  - May set tougher targets for costs and delivery which may result in a long term detrimental effect on the overall risks;
  - May not be familiar with the management of the risks associated with hazardous facilities;

- May have limited experience in managing major accident hazards and those specifically associated with the acquired facility;
  - May not conduct or conduct an incomplete due diligence process relating to hazard, process safety and environmental issues;
  - May appoint an operator with little expertise in plant operations or safety management;
  - May not be familiar with the national regulations of the country where their newly acquired facility is sited;
  - May not have sufficient engineering, safety and other relevant technical resources to support the management of integrity, operations, process safety and major hazard risks on the site.
  - May have a very different safety culture and approach to hazard and risk management - e.g. a higher safety culture is introduced to a less safety aware site or a new owner with lower safety culture takes over as site that had previously high safety achievements;
  - May not invest sufficiently in the integration process, for example not appointing its own staff on site at key positions for the first years after the acquisition.
- The uncertainty, instability, distraction, disillusionment, and change before, during and immediately after the ownership change for example;
    - amongst staff particularly if the transaction results in a new operator or significant changes to personnel;
    - concern about continued employment, terms, conditions and benefits such as pension rights
    - uncertainty about the future of the facility or speculation about the new owner's future plans leading to distraction and lack of focus on safe operation
    - loss of key personnel and a lack of commitment from remaining staff as a result of a significant period of uncertainty prior to the ownership change.

### Direct Risk Drivers

The direct risk drivers are the understanding of the hazards and the suitability, condition and effectiveness of the plant, and people and processes needed to prevent, control and respond to a major accident. These can be measured or assessed as part of the technical due diligence process.

- The inherent risks which form the baseline for any risk assessment are the risks presented by the hazards on site, such as: the types of hazardous materials, the quantities, the storage and processing conditions, process automation and efficiency, transportation and pipelines, the layout, design and age, the proximity to site personnel, adjacent industry, the public and vulnerable ecosystems;

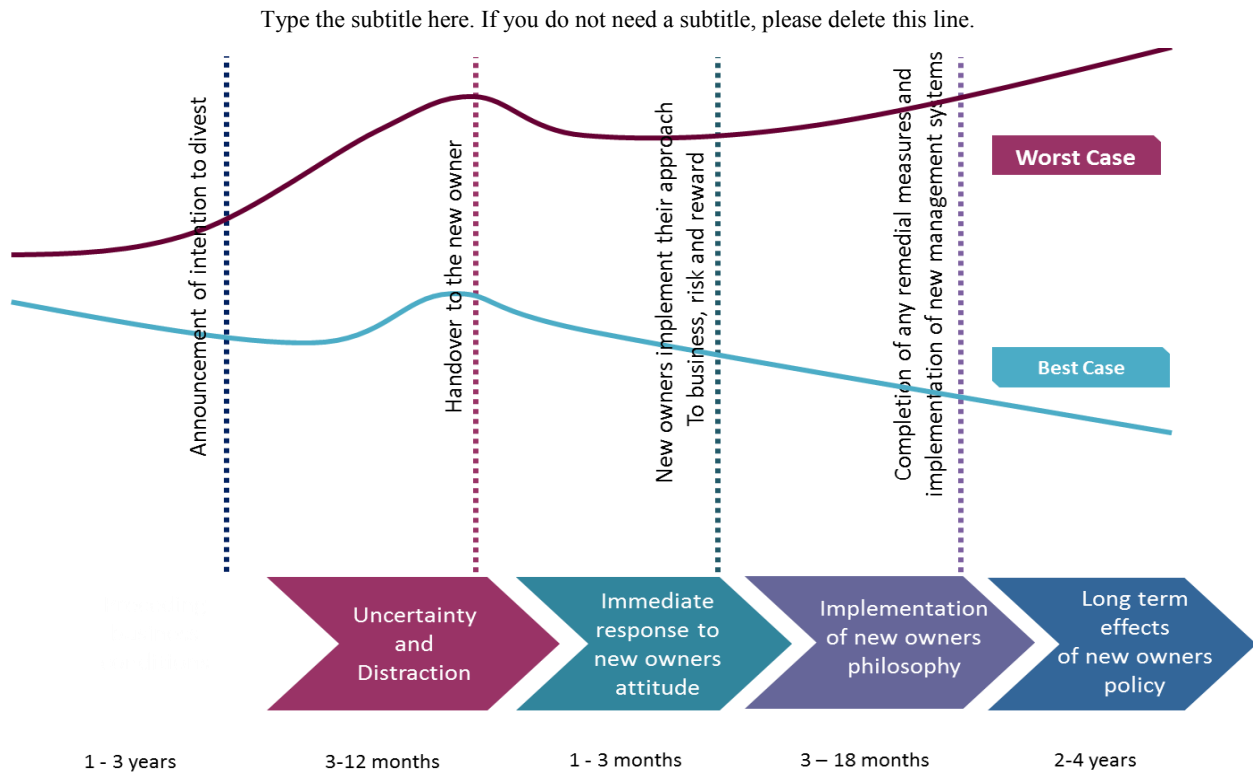
- Loss or lack of knowledge about the hazards and risks, either through lack of awareness, failure of the past owner to provide information or of the new owner to request it;
- Age and Design; outdated design standards, poor layout, lack of modern safety systems and backup systems, obsolescence, improper design or safety modifications;
- Condition; corrosion, erosion, fatigue and lack of testing, inspection and maintenance;
- Incorrect, outdated or missing documentation including drawings, plans, logs and other records;
- Key tasks (e.g. maintenance) being outsourced to third parties with little supervision and information provided on the process safety of the facility;
- Loss of key personnel and historical experience;
- Absence of effective safety management systems and process safety management before, during and after ownership change;
- Repeated ownership change resulting in recurrent turnover of safety management system regimes accompanied with insufficient training and other appropriate communication.

## Timelines and Risk

The process of ownership change may be divided into five phases as shown in Figure 2. During these periods, the risks may rise and fall according to the reasons for the transaction and the attitudes of the seller and buyer. It shows the best and worst cases (referring to the green and red lines in Figure 2). Ownership change can involve complex steps and negotiation but the five phases provide a basic understanding of the process.

In the first phase, a responsible and diligent owner may actively prepare the facility for sale with investment to identify and rectify defects and ensure that effective risk management processes are ready for transfer to the new owner (green line). Alternatively, the facility may be unwanted and uneconomic; it may lack essential maintenance and have lost key personnel (red line). Another possibility is a hostile takeover in which case the management systems, personnel and plant should be at the normal standard for the current owner and the risks should stay the same.

The second phase starts when the facility is put up for sale or an unsolicited offer is made to acquire it. This could affect all staff members and if the site transfer is viewed negatively, may lead to personnel focusing on matters such as their continued employment and conditions rather than safe operation and risk management. Management may also be focussing on preparing the business for sale rather than their day to day duties including the safe management of the facility. This will almost invariably lead to some short term increase in risk. The speed of the process may exacerbate this peak in the risks. The current owners will prepare for the sale and handover; this may range from a superficial presentation of the condition of the facility and its risk management systems to the rectification of defects and assurance that effective management systems will be transferred to the new owners.

**Figure 2. Potential Risk Profile during the Change of Ownership**

*Note:* All phases presented in Figure 2 may not be relevant for all ownership change.

*Source:* OECD

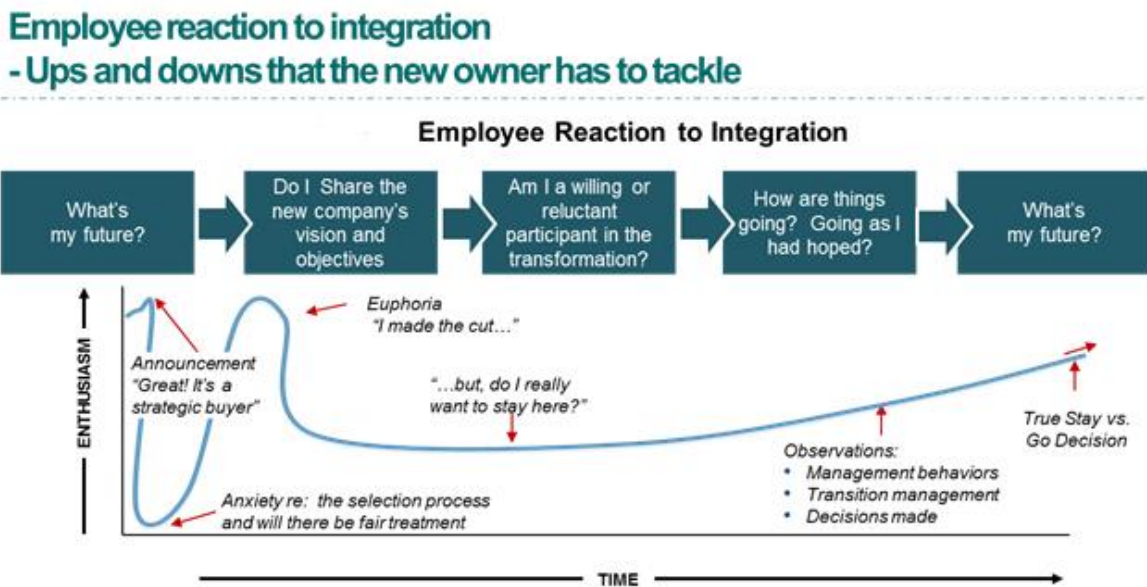
The third, potentially shorter, phase is the weeks and first months following the change of ownership. At this time new owners may make immediate changes to key personnel. Over emphasis on costs and production without consideration of the risks will have a detrimental effect. At this stage any lack of commitment to take risk management seriously will be reflected in the attitudes and actions of the workforce. It may also lead to further loss of key personnel.

In the following months, the fourth phase, the commitment and intentions of the new owners may become clearer with the establishment or improvement of risk management systems, rectification on defects in the plant integrity and investment in further risk reduction; or not. This positive or negative behaviour will be embedded in the fifth phase when the final risk levels are achieved.

The fifth phase is when the new owner's attitudes and commitment are realised. Rectification and improvement of the facility will have been completed or it may have been allowed to deteriorate. Changes in management systems may have brought about a revitalisation of the safety culture with better control of work, improved competence and stability. Alternatively risks could increase as management systems are ignored and become ineffective with employees becoming disillusioned and uncaring.

Throughout the process an important driver of risk will be linked to the employees' reaction to the change of ownership. The critical phases are illustrated in the figure 3 below:

Figure 3. Possible Employee's reaction to integration



Source: Figure by Yara International, Extracted from a presentation by Jan-Petter Fossum, SVP & Head of Corporate HESQ, Yara International, Norway, for the OECD Expert Workshop on “Developing Guidance for Ownership Change in Hazardous Facilities”, Paris, 4 May 2017

## Self-assessment checklists

The self-assessment checklists are provided to help the main stakeholders prepare for the change of ownership, firstly by raising issues which should be considered before announcing publicly that an asset is available for divestment or carrying out background research before making an approach to take it over. It will also enable others to focus on the issues which might affect them, particularly the hazards to which they might be exposed and the need for assurance that they are being managed effectively.

The checklists ask questions related to the direct risk drivers such as plant, people and processes and the more fundamental issues relating to own responsibilities and the attitudes and intentions of the other stakeholders in the transaction.

You do not need to carry out everything in the checklists but you can select the questions that are of most relevance to your particular purpose (e.g. according to the size and risk of the site)

The questions are intended to be answered using 'traffic light' scores:

1 = Yes, and I can demonstrate this ●




2 = Uncertain, I would need to find out more, or this is work in progress ●







3 = No, I think there is a gap ●




### SELF-ASSESSMENT QUESTIONS FOR THE CURRENT OWNER




The current owner needs to focus on their legal responsibilities to hand over a facility and site with the potential for a major accident which could harm the workforce, the surrounding factories, people living nearby and the environment. The checklist gives a series of pointers to fulfilling their responsibilities. These may be more easily fulfilled if the facility has been openly offered for sale, and more difficult with a hostile takeover where there has been little time or incentive to prepare.

<i><b>Planning Phase</b></i>	<span style="color: green; font-size: 1.5em;">●</span>	<span style="color: orange; font-size: 1.5em;">●</span>	<span style="color: red; font-size: 1.5em;">●</span>
1. Have you determined which information you should provide to the prospective new owner to assure continuity in the safety of operation as well as any necessary documentation to comply with the relevant legislation? <i>Tips: You can look at the template for transparency on page 34 for a detailed list of documents that you would want to share with the new owner.</i>			
1.a Have you reviewed this information to make sure it is complete and up to			

date? 1.b Have you made sure this information will be provided in a way that will be easy for the prospective new owner to review?			
2. Have you arranged a meeting with the prospective new owner to discuss relevant issues and provide them with any necessary information and documentation?			
3. Have you arranged for a site visit with the prospective new owner with opportunity to discuss with the operator and technicians?			
4. Are you sufficiently aware of what responsibilities you have for assuring a safe change of ownership?  4.a Do you know what potential liabilities you would retain after the change of ownership and for how long?			
5. Do you know if you are required to inform the regulator about your intentions for divestment and to inform them of who may be the new owner?  <i>Tips: do not hesitate to contact relevant regulatory authorities to have more information about their role during an ownership change and the support they can provide</i>			
<b><i>Underlying Risk Drivers; Attitude and Responsibility</i></b>			
1. Are you confident that you have a complete understanding of the hazards on site and that you have effective processes in place to prevent and contain them?  <i>Tips: You may want to refer to the OECD Guidance on Corporate Governance for Process Safety to test your awareness of process safety at your facility.</i>			
2. Are you prepared to share with the prospective new owner information about the hazards, the condition of the facility (all known or suspected safety problems) and the effectiveness of the management systems?			
3. Have you considered the impact of the potential loss of safety critical personnel?  <i>Tips: You may want to engage in a review of procedures to ensure safety will not be adversely affected, in particular the impact that personnel changes will have on the corporate safety culture.</i>			
4. Have you planned how you intend to keep employees appropriately informed in order to prevent uncertainty/ instability that may lead to dangerous situations in the period immediately before and after the hand-over?			

<b><i>Direct Risk Drivers; Technical, Personnel and Managerial Issues</i></b>			
1. Have you identified safety critical issues that must be focused on during the period before the change of ownership?			
2. Have you identified any outstanding issues from previous inspections or assessments that may need to be addressed by the new owner?			
3. Have you informed the prospective new owner about the technical or operational issues that are of a safety-critical nature?			
4. Have you sent to the prospective new owner a) any relevant information about the site held by the regulator and b) any relevant guidance / information about compliance with the law?			
5. Have you established a complete list of all the safety critical tasks that are being outsourced on site and the contact details of the companies contracted to carry out each of these tasks?			
6. Have you identified any issues linked to environmental pollution associated to the site of which the new owner should be aware?			
<p><b>Make sure to:</b></p> <ol style="list-style-type: none"> <li>1. Summarise the identified gaps above and develop a plan for closing them;</li> <li>2. Develop a plan and timetable for the handover of documentation and processes (you can refer to the template for transparency on page 34);</li> <li>3. If needed, bring the facility up to minimum standards or prepare a list of defects, maintenance backlogs and outstanding issues;</li> <li>4. Agree on succession planning for key personnel with the new owner.</li> </ol>			
<p><b>SELF-ASSESSMENT QUESTIONS FOR THE PROSPECTIVE NEW OWNER</b></p> <p>The primary questions for anyone intending to take over a major hazard site are; <i>Are you competent to take over the management of a major hazard site and are you prepared to accept the risks if you do so.</i> These questions will help you realise the responsibilities and liabilities that you accept when doing so.</p>			
<b><i>Planning Phase</i></b>			
1. Have you prepared a list of the documentation you will want to ask to the current owner?			

<p><i>Tips: You can look at the template for transparency on page 34 for a detailed list of documents that you would want to ask the current owner.</i></p>			
<p>2. Have you arranged a meeting with the current owner to discuss relevant issues and obtain any necessary information and documentation?</p> <p>2.a Have you agreed on a timetable with the current owner to deliver the necessary documentation?</p> <p><i>Tips: the availability, details and quality of the information provided can be an indication of the competence and responsibility of the current owner.</i></p>			
<p>3. Have you arranged for a site visit with the current owner and discussion with operating personnel?</p> <p>3.a Has the current owner given you sufficient time and access to visit the facility?</p> <p><i>Tips: You should prepare in advance a list of the questions you want to ask the current owner about the facility as well as the main elements of the facility you would like to have access to.</i></p>			
<p>4. Have you made sure that the review of the documentation and site visit will be carried out by experienced engineers and managers?</p> <p><i>Tips: for larger companies the expertise can be found in house, smaller companies might need to engage third parties to have the appropriate expertise - in this case companies should act as an "intelligent customer" making sure that the review is being carried out with high standards.</i></p>			
<p>5. Do you know the reason for the sale of the facility?</p> <p>5a. Are you aware of how the sale might affect the facility, retention of key personnel, investment and risks after the ownership change?</p>			
<p>6. Have you considered with drawing on from the deal if:</p> <ul style="list-style-type: none"> <li>• the risks from the facility are too great or</li> <li>• the time, trouble and investment needed to repair the facility make future operation uneconomic?</li> </ul>			
<p><b><i>Underlying Risk Drivers; Attitude and Responsibility</i></b></p>			
<p>1. How familiar are you with your legal responsibilities in taking over a major hazard site?</p>			
<p>2. Are you sufficiently aware of the regulatory regime in the country where the site is located?</p> <p><i>Tips: do not hesitate to contact relevant regulatory authorities to have more information about their role during an ownership change and the support they</i></p>			

<i>can provide.</i>			
3. Do you have the necessary expertise to run this facility and to manage the major accident risks or are you confident that you can rely on others to manage the key systems and arrangements for you?			
4. Have you assessed the risks of taking over the facility not only to the workforce and surrounding area but to you personally and corporately?  <i>Tips: you should carry out a hazard evaluation to determine the nature and level of hazards at the facility.</i>			
5. Do you understand the potential consequences (fire, explosion, toxic effects) of a release of hazardous substances from an installation or storage on site and the extent of the impact?			
6. Are you prepared to invest in, and maintain the standards for the plant, people and management systems needed to manage these hazards safely?			
7. Have you determined the requirements for operating the facility in conformity with your own standards?			
8. Have you considered what potential impacts the change of ownership might have on the site, particularly with regard to; a change in management approach, a reduction in the number of staff and / or a change in the safety critical staff?  <i>Tips: you may want to engage in a review of procedures to ensure safety will not be adversely affected, in particular the impact that personnel changes will have on the corporate safety culture.</i>			
9. Have you planned how you intend to keep employees appropriately informed in order to prevent uncertainty/ instability that may lead to dangerous situations in the period immediately after the hand-over?			
<b><i>Direct Risk Drivers; Technical, Personnel and Managerial Issues</i></b>			
1. Have you been advised of any outstanding issues from previous inspections (by the operator and/or public authorities) of a safety critical nature that you may be required to act on?			
2. Have you received information from the current owner about any technical or operational issues that are of a safety-critical nature?			
3. Have you identified safety critical issues that must be addressed in the period immediately after the change of ownership?  <i>Tips: if you conclude after an assessment that the installation does not meet</i>			

<i>your standards or internationally accepted safety levels, you should make a plan to bring up the installation to such safety levels within a reasonable period of time.</i>			
4. Do you know which operations, maintenance and supervisory positions are key to safe operations and how these roles will continue to be fulfilled?			
5. Have you asked for a complete list of the safety critical tasks that are being outsourced on site as well as a list of the companies contracted out to carry each of these tasks?			
6. Are you aware of any accidents or near misses and follow-up points from investigations that you as a new owner may need to focus on?			
7. Have you received information regarding any previous organisational issues that may be of importance for the future organisation of the facility?  7a. Have you looked into data regarding turnover of personnel? (extreme turnover is a warning sign)			
8. Are you aware of any environmental liabilities and (known or unknown) pollution associated to the site?			
9. Are you aware of any particular risk for cyber-attacks and malicious acts toward the site?  9a. Have you asked the current owner if any plans have been put in place to protect the site for these types of attacks?			
10. Have you considered the sensibility of the site toward external risk factors such as natural hazards?  <i>Tips: external factors very much vary from country to country and region to region.</i>			
11. Have you received documentation/information from the previous owner to substantiate the answers to the above questions?  11 a. Does the documentation provided correspond with reality?			
12. Have you considered asking for information from the insurance company to gather additional elements on the inherent risks from the type of processing and the actual risks given the conditions on site?			
13. Have you prepared a strategic plan for a successful integration of the new facility (including the possible need for upgrade of the facility to your own standards and process safety culture and the financial investment needed)?  <i>Tips: the plan should include to directly position experienced staff from the company on the new site from day 1 after the deal is closed. By occupying key</i>			

<i>position on the site they will be able to integrate your standards most efficiently.</i>			
<p>14. Have you planned to spend sufficient time on the new facility and discuss with employees during the integration process?</p> <p><i>Tips: Communication with the personnel is key, in particular during the integration process. There should be a clear statement made on what is good and what needs to be improved on site. Seeing improvements to the safety of the site can be a significant motivator for the personnel. Employees' satisfaction and attitude after the change of owner can be checked through regular survey.</i></p>			
15. Have you prepared a plan to monitor progress during the integration phase?			
16. Have you made sure that all relevant corporate safety policies and guidelines for chemical accidents prevention, preparedness and response have been applied after the acquisition?			
<p><b>Make sure to:</b></p> <ol style="list-style-type: none"> <li>1. Summarise the identified gaps and develop a plan for closing them;</li> <li>2. Review the hazard and risk assessments to satisfy that they are complete, correct and that the people, processes and plant will continue to provide at least the current level of risk management;</li> <li>3. Agree with the current owner succession planning of key personnel;</li> <li>4. Identify and plan for any immediate actions which may be needed immediately after the handover, including inspections, repairs, recruitment of key personnel, and sourcing of expertise;</li> <li>5. Based on information gathered, make a long term improvement programme;</li> <li>6. If necessary, inform the regulator if they have not already contacted you and arrange a meeting to discuss their views on the facility.</li> </ol>			

## FACTORS REGULATORS/PUBLIC AUTHORITIES SHOULD CONSIDER

The regulator has the role of safeguarding the workers, the public and the environment. The regulator does so by following up that the owner of the facility complies with the relevant legislation and assures the safe operation of the facility. Public authorities should promote a well-informed process and use the national laws to promote responsibility, effective risk management and the maintenance of good standards, competent personnel and effective management systems. Public authorities should have an open attitude towards potential sellers and buyers that contact the regulators with questions.

Dependent upon the regulations in their country and any confidentiality obligations, public authorities should consider:

1. Be open to asking questions concerning divestment, restructuring etc. in contacts with the establishment. This enables you as regulator to receive information at an earlier point;
2. The responsibility the current owner has for the handover of a safe well managed facility;
3. The residual responsibility and liability the current owner will have after the handover and for how long;
4. Identifying unresolved issues from inspections that must be followed-up with the current or new owner;
5. Informing potential past and new owners as well as due-diligence consultants about existing guidance for a well-informed ownership change (place them on the regulators home-page);
8. Being proactive during inspections and inform the current and prospective new owners of the information that public authorities can bring during the process;
6. If informed of an ownership change, initiating/participating in a meeting with the prospective new owner to discuss how they will ensure continued safe operation, necessary requirements/ documentation to be presented to the authorities, and where appropriate agree on a timetable;
7. Adjusting the inspection plan for the facility following the change of ownership (e.g. an early inspection to discuss information after the point of changed);
9. If you are aware of unresolved issues from inspections on the site that must be followed-up with the current or prospective new owner - to agree on a plan, for resolving these;
10. Based on your knowledge about the facility, identify any safety critical issues that must be followed up more closely due to the ownership change. Key competency, contractors and management of change (MOC) might be some important factors to follow up;
11. During the inspections that will follow the takeover, listening carefully to the site employees about organisational change and possible deficiencies,

## A template for transparency for supporting technical due diligence

This is a part that will help you evaluate the self-assessment questions. The following template for transparency lists information the current owner of the facility should prepare to assist prospective new owners and other stakeholders in evaluating the facility safety status. The following documents should be made available prior and during the transactions. This list aims to provide some of the key elements to assure a well-informed transaction from all parties engaged.

It should be noted that this list if not exhaustive is comprehensive - the prospective new owner may not have the possibility within a limited period of time to review that many documents and should select those they find essential for their purposes. Also the due diligence should be adapted to the size and risk of the establishment. You can choose the sections/documents that are of most relevant for you.

The document review should be complemented by site visits in order to verify that the documentation provided correspond with reality.

Document or Information for the Template for Transparency	Questions to be asked as part of the Technical Due Diligence Process
<p><b>Facility Overview</b></p> <ul style="list-style-type: none"> <li>▶ Hazardous substances handled and produced</li> <li>▶ Size and age of facility handling and/or producing hazardous materials</li> <li>▶ Internal transportation and storage of hazardous materials</li> <li>▶ Utility supplies and reliability (electricity, gas, water)</li> <li>▶ Discharges (e.g. firefighting water, hazardous waste)</li> <li>▶ Reliability of water- and power supply</li> <li>▶ Contamination of ground, areas with risks of unexploded devices</li> <li>▶ Land use plan of the facility</li> <li>▶ Location and possible risk from neighbouring facilities/ other external impact</li> <li>▶ List of licenses and permits</li> <li>▶ List of tasks being outsourced and contact details of contractors.</li> <li>▶ Relationships and interdependency with neighbouring sites and companies</li> <li>▶ Reports from insurance company?</li> </ul>	<ul style="list-style-type: none"> <li>▪ Is there a list and inventory of hazardous substances handled or produced at the facility?</li> <li>▪ Are the major hazardous inventories in tankage, bulk storage, primary process vessels and pipelines clearly identified with descriptions of their primary and secondary containment?</li> <li>▪ Are there a comprehensive site and process description and layout detailing the receipt and storage of raw materials, the process and throughput, any intermediate processing, hazardous materials and storage, final product storage and export?</li> <li>▪ Are control rooms exposed to fire or explosion and are they capable of withstanding the effects?</li> </ul>

**Technical Information**

- ▶ Plant drawings
  - ▶ Piping and instrument diagrams
  - ▶ Equipment specifications
  - ▶ Cause and effect diagrams
  - ▶ Storage tank locations and integrity
  - ▶ Operating and maintenance manuals
- Is the list of drawings of the site, process, plant layout, and piping comprehensive, complete and up to date?
  - Are they in a form which can be accessed, used and updated; paper, pdf, CAD?
  - Are all locations of current and former storage tanks and storage facilities known?
  - Are storage tank integrity testing, age, and/or construction records available?
  - Are there instruction and maintenance manuals for all of the key plant operations?

**Hazard and risk studies and information**

- ▶ HAZOP and/or HAZID reports
  - ▶ PHA studies
  - ▶ Status of recommendations and follow up
  - ▶ Consequence and effects analyses for flammable, explosive, toxic and pollutant hazards
  - ▶ Quantitative and or qualitative risk assessments for the hazards and the site
  - ▶ Assessment of offsite hazard and natural hazard effects
  - ▶ Worst case scenarios effects
- Does the site have a comprehensive set of hazard and risk studies, what is the quality and have recommendations been addressed as follows:
    - Has the facility been HAZOPPED, or equivalent evaluation, and when was this last done or updated?
  - Have the recommendations been implemented fully or only partially addressed with procedural and operational controls?
  - Has consequence modeling been carried out for all of the major hazard inventories and leak sources to determine the realistic and worst case severity of the effects and escalation potential including;
    - flammable and toxic gas release and accumulation,
    - fire
    - vapor cloud, oxidizing and explosive deflagration on detonation
    - escalation to structures, buildings and major storage and pipeline inventories
    - offsite effects?
  - Has a qualitative or quantitative risk assessment been carried out for specific hazards, or the whole site? What are the risks to site personnel, the surrounding neighbourhood and industrial sites and to the environment?
  - Are there any potential long term health

	<p>effects from substance exposure to employees or neighbours or legacy of environmental harm and remediation for which the new owner may be liable?</p> <ul style="list-style-type: none"> <li>▪ Do all these documents give a realistic, accurate and complete picture of the hazards and risks on the site?</li> </ul>
<p><b>Health, Safety and Environmental Management Systems (HSEMS)</b></p> <ul style="list-style-type: none"> <li>▶ Contents list and overview of each of the elements of the HSEMS</li> </ul>	<ul style="list-style-type: none"> <li>▪ Does the site have an effective hazard and risk management system, giving assurance that the systems are in place to address the causes of major accidents and to contain those which might realistically occur?</li> <li>▪ Do these systems identify the people, and plant needed to do operate the facility safely and does the HSEMS provide the processes to ensure their competence, availability, reliability and integrity?</li> <li>▪ How will the transition to the new owner take place and what arrangements and resources will be needed?</li> </ul>
<p><b>Plant integrity records</b></p> <ul style="list-style-type: none"> <li>▶ List of safety critical equipment</li> <li>▶ Age, inspection, maintenance and test schedules and records</li> <li>▶ Plant certification and 3<sup>rd</sup> party reports</li> <li>▶ Backlog of inspection, testing, maintenance and outstanding defects and repairs</li> <li>▶ Details of major repairs, replacements, shutdowns and refurbishments</li> </ul>	<ul style="list-style-type: none"> <li>▪ Has there been a process for identifying Safety Critical Equipment and is it comprehensive?</li> <li>▪ Is their 3<sup>rd</sup> party inspection or certification of key plant and what do their reports say?</li> <li>▪ Are the inspection, maintenance and testing records complete and up to date?</li> <li>▪ Do these cover rotating machinery, piping, tankage, instruments and control, structural supports, electrical and ignition control systems, safety systems?</li> <li>▪ Is there a comprehensive plan to identify and assess corrosion and erosion throughout the facility, both external (particularly under insulation) and internal?</li> <li>▪ Have the fire-fighting systems, both passive and active been inspected and tested?</li> <li>▪ What is outstanding in the backlog and what key deficiencies have been identified?</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Will these be addressed by the current owner?</li> <li>▪ Are any parts of the facility obsolete or approaching the end of their design life?</li> <li>▪ When was the last major shutdown and what work was carried out?</li> </ul>
<p><b>Key personnel information</b></p> <ul style="list-style-type: none"> <li>▶ List of key personnel positions for operation, maintenance, supervision, management</li> <li>▶ Key positions not filled</li> <li>▶ Competence records</li> <li>▶ Details of specialist technical support personnel not included in the change of ownership</li> <li>▶ List of tasks being outsourced to third party personnel</li> </ul>	<ul style="list-style-type: none"> <li>▪ Have the key personnel needed to run the facility safely been identified?</li> <li>▪ Has the key supervision and management been identified?</li> <li>▪ Have the critical technical support for process safety and integrity management been identified and will this support continue to be available after the handover?</li> <li>▪ Are these people qualified and/or experienced in current operations and how is this assured?</li> <li>▪ Will they remain in place after the handover and what incentives are there to keep or replace them?</li> <li>▪ What are the tasks that are being outsourced to third party personnel?</li> <li>▪ Is this outsourced competency critical for the safe operation of the facility?</li> </ul>
<p><b>Procedures and practices</b></p> <ul style="list-style-type: none"> <li>▶ List of operating procedures</li> <li>▶ Overview of the permit to work system, task risk assessment process and records</li> </ul>	<ul style="list-style-type: none"> <li>▪ Are there effective procedures for all key aspects of operation, including start-up and shutdown?</li> <li>▪ Are there clearly stated operating limits for all processes ?</li> <li>▪ Are there procedures for managing deviation outside the operating limits?</li> <li>▪ Have all management systems been operating effectively and what is the quality of the risk assessment and controls for the hazardous areas and activities?</li> </ul>
<p><b>Major changes and modifications</b></p> <ul style="list-style-type: none"> <li>▶ If possible, a list of all major changes to the</li> </ul>	<ul style="list-style-type: none"> <li>▪ Has the Management of Change process</li> </ul>

<p>facility since its commissioning</p> <ul style="list-style-type: none"> <li>▶ Risk assessment associated with the Management of Change for any modifications in the last 5 years</li> </ul>	<p>adequately assessed the change in risks both the causes through HAZOP and the consequences through changes in inventory, substances and process conditions?</p> <ul style="list-style-type: none"> <li>▪ Has the impact of the new facilities on the old and visa-versa been addressed?</li> </ul>
<p><b>Regulatory compliance, submissions, reports and records</b></p>	
<ul style="list-style-type: none"> <li>▶ List of regulations with which the site must comply and the authorities enforcing them</li> <li>▶ List of licenses</li> <li>▶ Safety Reports and submission to the authorities for review and/or approval</li> <li>▶ Regulators inspection reports</li> <li>▶ List of enforcement notices</li> </ul>	<ul style="list-style-type: none"> <li>▪ What are the primary laws, regulations, or policies the site has to comply with in relation to the management of major substances, toxic, flammable, polluting, or explosive hazards?</li> <li>▪ Does this require the submission of a Safety Report or similar documentation which describes the hazards on the site and is site operation subject to approval by the authorities?</li> <li>▪ Is the change of ownership subject to approval by these authorities?</li> <li>▪ Does the site have to comply with specific regulations related to plant integrity, operation and process safety and is it in full compliance?</li> <li>▪ What have the authorities written following submission of Safety Reports or following inspections and have recommendations been addressed?</li> <li>▪ Has the site had any prosecutions or enforcements in the last 5 years?</li> <li>▪ Are there any outstanding enforcement actions, safety recommendations, or improvement or prohibition notices in place?</li> </ul>
<p><b>Emergency Response</b></p>	
<ul style="list-style-type: none"> <li>▶ List of internal emergency response plans</li> <li>▶ Information provided to authorities for external emergency planning</li> <li>▶ List of equipment for mitigation of accidents</li> </ul>	<ul style="list-style-type: none"> <li>▪ Is the emergency response plan up to date or has it been updated recently?</li> <li>▪ Are there different emergency response procedures for different parts of the facility; are they specific to the materials being handled and site and surrounding conditions, and do they relate to the hazard studies and potential for escalation?</li> <li>▪ What is the dependence upon emergency response/ firefighting personnel to control a</li> </ul>

	<p>major accident, what risks are they exposed to, and are they capable of controlling it?</p> <ul style="list-style-type: none"> <li>▪ Is there dependence upon mutual aid or local authority fire services and could they respond and be effective?</li> <li>▪ Are adjacent hazardous sites exposed to the effects of hazards on this site?</li> <li>▪ What measures have been taken to test emergency response procedures?</li> </ul>
<p><b>Audit reports, accident- and incident reports, actions and status</b></p> <ul style="list-style-type: none"> <li>▶ List of accidents and incidents and their consequences, data on safety performance</li> <li>▶ Details of primary findings for major releases and injuries/fatalities</li> <li>▶ Status of the recommendations</li> <li>▶ List of internal, corporate and external audit reports relevant to operation, integrity and risk management</li> <li>▶ Key findings and status of the recommendations</li> </ul>	<ul style="list-style-type: none"> <li>▪ What accidents and incidents have been reported and investigated in the last 5 years?</li> <li>▪ Who investigated them, what were the findings and have recommendations been implemented?</li> <li>▪ Has the plant been audited with regard to any of the aspects of hazard management mentioned above; who has carried out the audit; internal, corporate or external; and what were their findings?</li> </ul>

## For Further Reading

OECD (2003), Guiding Principles for Chemical Accident Prevention, Preparedness and Response, <http://www.oecd.org/env/ehs/chemical-accidents/Guiding-principles-chemical-accident.pdf>

OECD (2008), Guidance on Developing Safety Performance Indicators: For Industry <http://www.oecd.org/chemicalsafety/chemical-accidents/41269710.pdf>; For Public Authorities, Communities & Public <http://www.oecd.org/chemicalsafety/chemical-accidents/41269639.pdf>

OECD (2012), Corporate governance for process safety: Guidance for senior leaders in high hazard industries, <http://www.oecd.org/env/ehs/chemical-accidents/corporategovernanceforprocesssafety.htm>

Center for Chemical Process Safety (CCPS) (2013), Guidelines for Process Safety Risks In Case Of Organisational Change, ISBN: 978-1-1183-7909-7

Center for Chemical Process Safety (CCPS) (2010), Guidelines for Process Safety Acquisition Evaluation and Post Merger Integration, ISBN: 978-0-470-25148-5 ;

### Useful Websites

Center for Chemical Process Safety (CCPS): <http://www.aiche.org/ccps/>

Chemical Safety Board (US) (CSB): <http://www.chemsafety.gov/>