

SUSTAINABLE
STAINLESS



Safety and Sustainability Awards 2017





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Welcome from the Secretary-General



Dear Members,

This is the 8th time that we have presented our Annual Awards for Sustainability and Safety. As in previous years I have to say that the response level has been rather

disappointing and we need to investigate more deeply why that is so. But we still have a consistent level of support from a regular group of members and I can assure you that the standard of the entries has been very high.

I know that all of you have your own programs to ensure the safety of your workforces and to ensure the protection of the environment in which you work and I know that there is some excellent work being done in these areas. I would encourage you all to communicate your plans

and achievements, so that we will have a solid story to tell the regulatory authorities and the general public about what we are doing to manage the safety of our people and the protection of our environment, and so that others may learn from your innovation and hard work. Our Awards program is designed to reward excellence and commitment, but also to provide an incentive to others to submit their own programs for adjudication in these annual competitions. Remember, you must be in the competition in order to win an Award!

This year's Awards have been presented to first, second and third placed winners in each category. I congratulate all the winners of this year's Awards for their worthy efforts – they have demonstrated how even focusing on relatively simple, day-to-day activities, but doing them well and in a disciplined manner, can achieve really significant results as long as they are done consistently and thoroughly.

Sadly not everyone can be a winner in a competition, but it is very important to recognise that there are no losers here. Each of the submissions for this year's Awards is worthy of attention in its own right. As in previous years, we have published all the submissions in our Annual Safety and Sustainability Brochure. I would encourage you to read this brochure very carefully because good ideas can so easily be duplicated elsewhere.

John Rowe
Secretary-General
International Stainless Steel Forum
Brussels
May 2017

Acerinox Europa S.A.U.

Award: Safety
Category: Workplace improvement

Improvement in the Gripping System of the Lifting Gear for the Elevation/Manipulation of the Tundish for Continuous Casting

Challenge

It should be avoided to handle a lifting device with articulated link chains in order to prevent accidents like the entrapment of hands and fingers and blows to the head with the articulated link chains, among other incidents.

Action

When designing a new lifting device it is done in such a way that it can be avoided hands have to be put in the articulated link chains through the tundish grips.

Outcome

To increase the safety and to decrease the risks because the operator will not have to handle the lifting device with articulated chains.

In addition the productivity and efficiency of the operation was improved because only one operator is necessary. With the old lifting device two operators were needed.

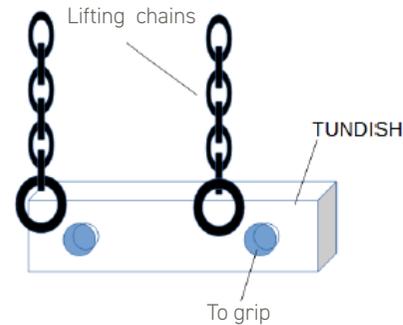


Figure 1: Old lifting device



Figure 2: Old lifting device

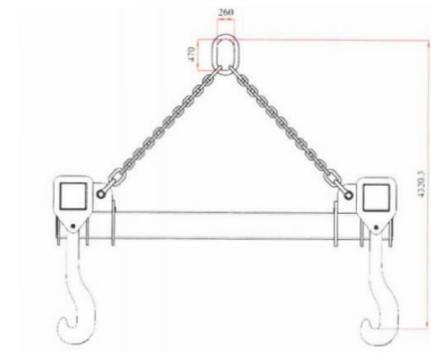


Figure 3: New lifting device



Figure 4: New lifting device



Aperam Alloys Imphy

Award: Safety
Category: Accident Analysis

Safety culture improvement

Challenge

At Aperam Alloys Imphy, around 1,000 employees and contractors work in the plant. In past years, the number of accidents increased significantly. Unfortunately, in 2012 the unacceptable occurred, we sustained two fatalities. In 2014, 27 declared accidents requiring medical attention were registered at the plant. The situation was unacceptable.

To face the situation, the plant management decided to take action to change the Safety mindset of our collaborators and the way we worked. It revealed itself as the breakthrough we were looking for.

The objective was to change the behaviour of every employee faced with hazardous situations and to increase the accountability of everyone. The scope of this change included personal behaviour, the level of knowledge of the safety rules, the compliance with safety rules and the mitigation of the hazardous situations. All collaborators, employees, interims and subcontractors working in the Imphy plant, were covered by the action.

We are, more than ever, convinced that zero accidents is attainable.

Action

At Aperam Alloys Imphy, for some years, the number of accidents increased significantly. In 2013, 28 accidents were declared, 27 in 2014. This situation was unacceptable.

We decided to implement sustainability in the safety behaviour of each employee and contractor present on the site. After a detailed and in-depth analysis of the situation at that time, we came to the conclusion that the main issues were:

- Lack of knowledge of the safety rules
- Collaborators were turning a blind eye to hazardous situations
- Low level of shared vigilance implemented in the mindset
- The habit of continuing to work even when the working area was not 100% safe

Following this analysis, the following main decisions were taken:

- Employment at Imphy required the full respect of Safety in terms of knowledge and compliance.
- A periodic safety assessment (every six months) is done for each Aperam employee with a minimum required success rate of 90% compliance with the rules.
- Each manager/supervisor is in charge to administer this assessment according to schedule.
- Each manager/supervisor was trained in safety leadership to deploy this safety mindset.
- Each Aperam employee has to mitigate a hazardous situation using the spot HIRA analysis.
- Each Aperam employee has the right to stop the steel production as soon as the working conditions are no longer compliant with the safety rules.
- For contractors and truck drivers, when on site, a specific safety induction is organized followed by an individual assessment. This assessment is re-evaluated every two months.

In 2015, the Aperam employees completed 2500 spot HIRA analyses; in 2016, 6500 spot HIRAs

Aperam Alloys Imphy

Award: Safety
Category: Accident Analysis

Safety culture improvement

were completed.

The main challenge we were faced with was to sustain the new mindset in situations where production constraints existed as well as dealing with the impact of dysfunctioning of the established process.

A strict follow-up of the implementation of the new mindset was done. For each non-compliance, even small, a reaction kicks in whereby knowledge and training is re-assessed and delivered if necessary. Every six months, production at the site is stopped to allow each supervisor to review and explain the events of the previous period. This provides the setting for all to discuss and share with his team on how to reinforce the safety attitude, how to maintain it, how to improve the safety mindset and respect of the safety rules.

To sustain the right level of this new mindset with each of our employees, we launched at the end of 2016, a new 5 days training workshop oriented on safety behaviour. The key points of this workshop are safety and risks in our activities,



Aperam Imphy Safety Audit

development of shared vigilance, to stop accepting the risky situations and finally to get employees' commitment to become true actors and partners in Safety.

Outcome

The results were quickly obtained. The number of declared accidents decreased by 15 in 2015 and by 11 in 2016. Therefore, vs. 2013, we reduced the amount of declared accidents by 60%.

Employees, contractors and truck drivers are more motivated to solve hazardous situations even if it requires a production stoppage.

If at first, this breakthrough was considered by the employees as a constraint, now they understand the benefits of this new mindset and are fully supportive.

Beyond the results obtained, the improvement of the safe behaviour is a key factor in becoming a Sustainably Safe company at Aperam.



Aperam Stainless Belgium, Genk Plant

Award: Safety

Category: Accident Analysis; Safety Training

Increasing Safety-Awareness with Transport Companies

Challenge

Besides own co-workers, Aperam has felt that also with his subcontractors there is a further challenge and potential to increase safety-awareness and behaviour and thus to reduce incidents at our sites. One of these groups is the transport companies that transport our finished products, i.e. stainless steel coils and sheets, to our customers. The drivers that enter our plants are a very heterogeneous group of people, coming from different places around Europe and performing a series of risk bearing activities.

In 2015, we registered one Lost Time Injury (LTI) at the plant and one in January 2016. In the same periods we detected more than 10 serious near-misses. The situation was unacceptable.

The objective was to change the behaviour of both the truck drivers and our employees who work with them. The scope of the action plan included personal behaviour, the level of knowledge of the safety rules and the compliance with safety rules and the mitigation of the hazardous situations.

We are, more than ever, convinced that zero accidents is attainable.

Action

At Aperam Genk, in the department in charge of the loading of our finished products in the trucks to carry them to the customer, we registered 1 LTI of a truck driver in 2015, 1 in 2016 and also different near-misses.

The truck drivers perform a series of risk bearing activities:

- Entering and descending trucks;
- Loading and unloading;
- Opening and closing trucks, securing loads.

Typical risks that are related to these activities are falling from trucks, getting crunched or getting cut by the sharp edges of the material. Besides this, not correctly secured loads, introduce risks at transporting the goods.

At Genk, with an average of more than 150 loads per weekday and more than 25 transport

companies and their subcontractors, the aim was to bring them on the same level as we request from our staff. Since many years, a “Cargo Securing” procedure, applied in the Aperam plants, imposes a list of Safety actions to secure the loading, unloading and transport.

The situation, at this time, showed us that it was unacceptable. We analysed the situation, taking into account the different configurations and pointed out 3 areas of improvement:

- Technical safety;
- Behaviour, both of the truck drivers as well as our own staff
- Communication, i.e. increasing awareness at the managerial level of the transport companies.

Obviously, we shared the analysis with the other Aperam plants during our periodic exchange meetings. The same objectives and the same conclusions were designed.

The different improvements were:

- Seminars with transporters and their

Aperam Stainless Belgium, Genk Plant

Award: Safety

Category: Accident Analysis; Safety Training

Increasing Safety-Awareness with Transport Companies

- management to increase the awareness and exchanging on best practices.
- Working on technical safety: list of authorized tools to be used, staircases to mount trucks, separate areas for drivers to wait during loading/unloading. Trucks that were not appropriate or that are not appropriately equipped are immediately banned from the plant.
- An instruction movie that has been distributed to the companies and available at our truck entries in different languages. Zero-tolerance of alcohol abuse.
- Local audits at several levels: audit campaign by an external, regular safety audits by the management and operational audit loop for every load to be loaded.
- Regular feedback of the audit remarks to transport companies. Companies that have been performing well are congratulated (e.g. Award of best transporter of the year). Companies are formally requested for action plans. In the case of severe misbehaviour or non-execution of an improvement plan, economical sanctions are taken
- Regular boss-to-boss meetings between plant

- management and transport management.
- This fair play policy has become a part of our regular evaluation of the transport companies and we defined safety as an essential element in our purchasing besides cost and service.

To become a sustainable safe company, this action is declared as a priority.



Aperam Genk Truck Audit

Outcome

By having this multi-approach (technical safety, communication, behaviour safety) and working on as well truck drivers, their management as well as local operational people, we have succeeded to increase the safety awareness and are now one year without incidents after having one LTI in 2015 and one in January 2016.

By means of our audit system, we were able to capture over 2500 remarks in 2016 that have been analysed by our truck companies and where we had action.

Truck companies that were not willing to follow this improvement cycle are banned and for some of them we already see improvement of the safety statistics (decrease in number of remarks) and where needed improvement of the fleet. At Genk, this resulted now in one year without any serious incident (LTI or declared accident).



Operational tool for reporting remarks

Bollinghaus Steel S.A.

Award: Safety
Category: Workplace Improvement

Straightening Ergonomics

Challenge

To straighten steel bars a straightening machine is used which is equipped with a loading table and an unloading table with a cradle where the operator piles each straightened bar from a bundle. Each bar is manually handled and can weigh 50 kg. Each bundle has a minimum weight of 500 kg till a maximum of 1,000 kg.

When unloading the bar to make a pile, the worker is exposed to the entrapment risk and an ergonomic risk.

Action

An automatic loading table was implemented. A pusher brings the bar to a cradle and makes the pile without human intervention.

Outcome

The manual handling need in the task was reduced. The worker's complaints regarding ergonomics no longer exists and the risk of injuries decreased.



Situation before



Situation after



Columbus Stainless (Pty) Ltd

Award: Safety

Category: Workplace Improvement; Safety Training

Safety and Security of Transporting Stainless Steel Goods

Challenge

Columbus is a stainless steel manufacturing plant situated in Middelburg, Mpumalanga, South Africa.

Columbus faces logistical challenges as the South African Ports are a substantial distance (>600 km), from the manufacturing plant. One of the major challenges faced is the safety and quality of transportation of finished goods and incoming consumables.

In 2014, Columbus experienced a number of transport related incidents, which resulted in road accidents compromising the safety of the public as well as damage to material, and thus the quality of delivery. The following challenges were raised;

1. Transporters required awareness and training of the correct procedures and methods of loading, securing and protecting Columbus goods in transit. Different shaped product viz. coils, sheets, slits etc. require different methods of securing.
2. Transporters required increased awareness of

the precautions that need to be taken on the national roads when transporting Columbus goods.

3. There was no specific area for transporters to properly secure, tarp and double check cargo before the journey.
4. Transport drivers required a health and safety induction before being able to enter Columbus property and to transport Columbus goods.
5. Finished goods were being damaged by chain lashing.
6. The photographs of loads and transporter identity and number plates were not clear to assist in identifying non-conformance to safety and quality standards.
7. There was no procedure in place for reporting the origin of damaged goods throughout the delivery chain.

Action

After each of the above challenges was thoroughly investigated and a root cause analysis done by the distribution and safety team, the challenges were systematically addressed.

1. The distribution and safety team drew up a standard procedure and transcribed this into a “transporter manual” that needs to be adhered to by all transporters entering Columbus property and transporting Columbus goods to the appointed destination. The objective of the transporter manual is as follows;
 - Familiarise transporters with Columbus quality standards and requirements
 - Familiarise transporters with terminology used when handling Columbus goods.
 - A step by step procedure of what transporters should do and routes that need to be taken upon entering and exiting Columbus property.
 - Alert transporters of the safety hazards within Columbus and measures to be taken in case of emergencies.
 - Alert transporters of the risks associated

Columbus Stainless (Pty) Ltd

Award: Safety

Category: Workplace Improvement; Safety Training

Safety and Security of Transporting Stainless Steel Goods

with transporting Columbus goods and precautions that should be taken.

- The correct loading, securing and protection at different loading bays in Columbus. Each product shape has a required standard for securing on the trucks.



Columbus Stainless Transporter Manual

2. The operations and safety team assessed areas that were being used by transporters to secure and tarp material. A uniform process

and area was designed to create a dedicated space and check points for transporters. The objective for this project was to provide a dedicated area to ensure all loads are properly secured and thoroughly checked.

3. Each driver is now required to attend a health and safety induction and receive training in accordance with the transporter manual by the safety and distribution team once every six months. The transporter is required to sign a declaration of training received once every six months assisting Columbus to keep records and ensure all transporters are properly trained.
4. Steel coil edge protectors were designed and provided to transporters and transporter drivers trained on how to properly secure coils using the designed protectors.
5. A high resolution camera was installed at the axle scale to ensure visual record of material safely secured.
6. A procedure was drawn up involving the technical, distribution and commercial departments to ensure that all damages of

goods are reported, this assists in proper and accurate reporting allowing corrective measures and actions to be put in place.



Steel coil edge protectors have reduced the damage to coils by chains.

Columbus Stainless (Pty) Ltd

Award: Safety

Category: Workplace Improvement; Safety Training

Safety and Security of Transporting Stainless Steel Goods

Outcome

1. All transporters are now aware of the Columbus values, the terminology often used, the routes to be taken by transporters and the safety measures to be taken in case of emergency.
2. The dedicated area for securing and tarping of loads has ensured that every load is checked by the transporters before leaving Columbus. An extra lane was created for ease of traffic control and cut down on turnaround times.
3. All transporters are now aware of the precautionary measures to be taken when transporting Columbus goods and are being continuously trained every six months on the correct loading, securing and tarping of goods. Transport related incidents have declined by an average of 51.5% since 2014.
4. The steel coil edge protectors have reduced the damage to coils by chains.
5. The installed cameras at the axle scale provides clear pictures showing whether loads are secured. This has been efficient in providing visibility of all loads leaving the

Columbus gate and as a tool to investigate incidents of transport damage.



A high resolution camera was installed to ensure a visual record of the safely secured material

6. This procedure ensured that technical, distribution and commercial work jointly to report the damages to goods in transit and that the corrective processes can be followed.

The distribution and safety team actively engages with transporters to discuss safety and quality when they occur. Quarterly meetings and KPI reviews have been set up and is yielding positive reviews with improvements in a decrease of road accidents, material lost in transit and damages to coil edges.

JFE Steel Corporation

Award: Safety
Category: Safety Training

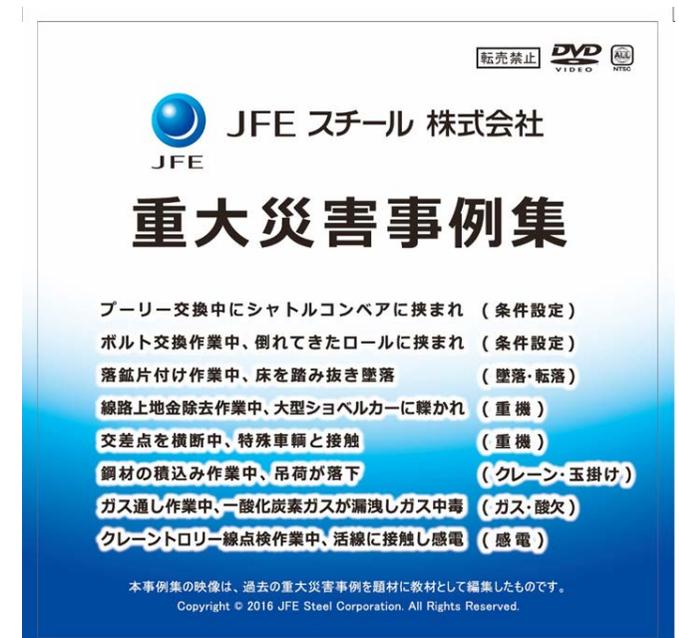
Using DVDs for Safety Training

Challenge

JFE Steel routinely undertakes a variety of Safety and Health activities in line with its fundamental principle that, "Safety is the first priority". Information related to fatal accidents which have actually occurred in our company in the past is also used to educate all workers. Initially the information was presented in written form however we found that just reading the facts was ineffective for training purposes. We discovered through feedback that it was difficult for those reading to understand the content quickly and easily because there were too many words and too few pictures and illustrations.

Action

We created new material for presenting the information using a DVD format. DVDs allow us to use computer graphics moving images together with a verbal commentary so the content is easy to understand in a short time even for the most inexperienced workers. The DVDs contain information about actual fatal accidents including the causes and preventative measures. They also include general instructions for maintaining safety in the workplace and while working. Our goal was to create DVDs containing content that could be viewed within a short time (2-3 minutes for each case) and presented in the most easy-to-understand and remember way possible. We used actual examples of accidents which have occurred in our company in the past in order to make the training as practical, relevant and as real as possible. Furthermore, the DVDs are also useful for KY training (Kiken Yochi in Japanese). KY training consists of activities that teach our employees to be proactive in identifying and addressing possible risk factors and safety exposures as they go about their daily work.



Picture of the jacket of a DVD which contains information about fatal accidents which have occurred in JFE Steel Corporation in the past.

JFE Steel Corporation

Award: Safety
Category: Safety Training

Using DVDs for Safety Training

Outcome

Since starting to use the DVDs we have found that even new employees and contractors are easily able to understand the facts of and the lessons to be learned from past accidents. At present we ensure the DVDs are watched periodically by our employees as part of their regular safety training. We are convinced that the DVDs are an effective way not only to make sure our workers do not forget past fatal accidents but also to educate them in preventative measures. Our goal is to create a work environment and a way of working in which each individual is focused on safety at all times, not only their own but also the safety of those around them. In this way potential risks can be identified and addressed so accidents can be prevented.



クレーン・玉掛け災害を防止するための注意事項

1. 玉掛け合図は、クレーン運転士が分かりやすいように行う



Example of graphics used in the DVD to help describe fatal accidents and teach the safety lessons that need to be learned.



Nippon Steel & Sumikin Stainless Steel Corporation (NSSC)

Award: Safety
Category: Workplace Improvement

Voluntary Safety Improvement Activities at Kashima Works

Challenge

Safety is essential in order to keep a workplace vibrant.

However, risks that may threaten safety are hidden here and there in workplaces, most of which only operators on the floor can be aware.

It is idealistic to take countermeasures immediately to minimize these risks, though, it tends to take some time in many cases, as an operator who becomes aware of the risk reports to his or her supervisor, who in turn reports to the Equipment Department that is responsible for taking countermeasures.

In addition, there are limits to the effectiveness of countermeasures considered and taken only by the Equipment Department. Therefore, it is necessary to involve the operators, who are exposed to such safety risks in their day to day work, in the risk control processes to promote efficient and effective countermeasures.

Furthermore, allowing the operators to

accumulate experience of pro-actively planning and executing countermeasures against safety risks also helps increase safety awareness of the entire workplace.

Action

At NSSC Kashima Works (former Sumitomo Metal Kashima Works), many small group activities to improve workability have been carried out over the past 22 years. Most of these activities have also led to the improvement of safety in the workplaces. These activities are characterised by the fact that they are not based on orders from their supervisors. Instead, the operators examine, design and timely carry out improvements by themselves.

One of the examples is shown in Photo 1 below.

When the canopy for the fall prevention of foreign objects provided over the tension leveller line was removed during the maintenance work, operators needed to be on the canopy with a height of about 3 meters to connect a crane with the canopy by

wires. In addition to the fact that this work may cause a fall from a height, its workability was poor as well.

Through the voluntary safety improvement activity, it was decided to create an exclusive suspending tool that enables operators to do that work from the floor. As a result, it became unnecessary to work on the canopy, which eliminated a falling risk. In addition, the workability was also improved.

Outcome

By vigorously implementing activities to eliminate small risks of injury in all the workplaces, the safety culture of the company has been steadily promoted. Additionally, the capability of hazard prediction on individual basis as well as safety awareness of each operator has also been improved.

In order to further encourage the activities, we hold a contest each year to honour excellent improvements.

Nippon Steel & Sumikin Stainless Steel Corporation (NSSC)

Award: Safety
Category: Workplace Improvement

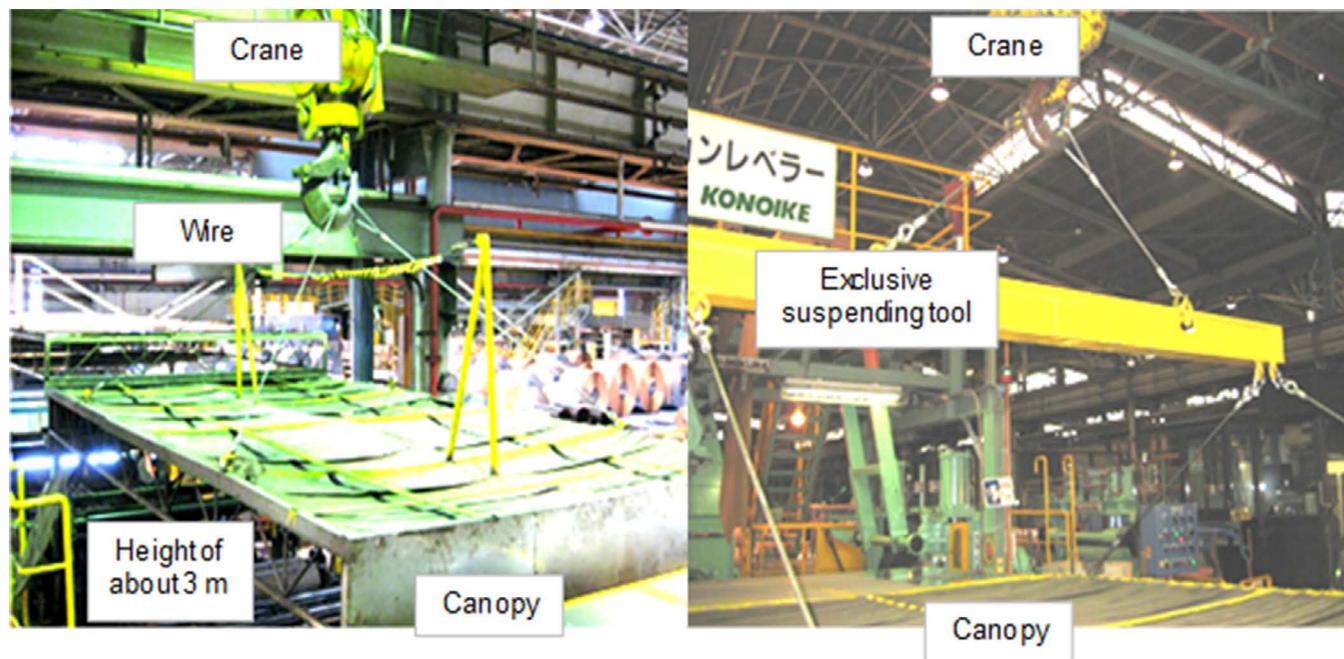
Voluntary Safety Improvement Activities at Kashima Works

The number of applications to the contest has been increasing since 2003, reaching a level exceeding 150 applications annually for about 200 workers who are working at Kashima Works (Fig. 1).

We believe that these voluntary safety improvement activities contribute to the fact that there has been no long time injury occurred at Kashima Works for 11 consecutive years since 2005.

These activities also invigorate each workplace, as operators can convey the joy of executing improvements to younger people while acquiring the skills to embody their ideas as well as learning the activities conducted in other workplaces.

Photo 1



Before

After

Example of improvement by voluntary safety improvement activity
 [creation of suspending tool exclusively for removing canopy of tension leveler]

Nippon Steel & Sumikin Stainless Steel Corporation (NSSC)

Award: Safety
Category: Workplace Improvement

Voluntary Safety Improvement Activities at Kashima Works

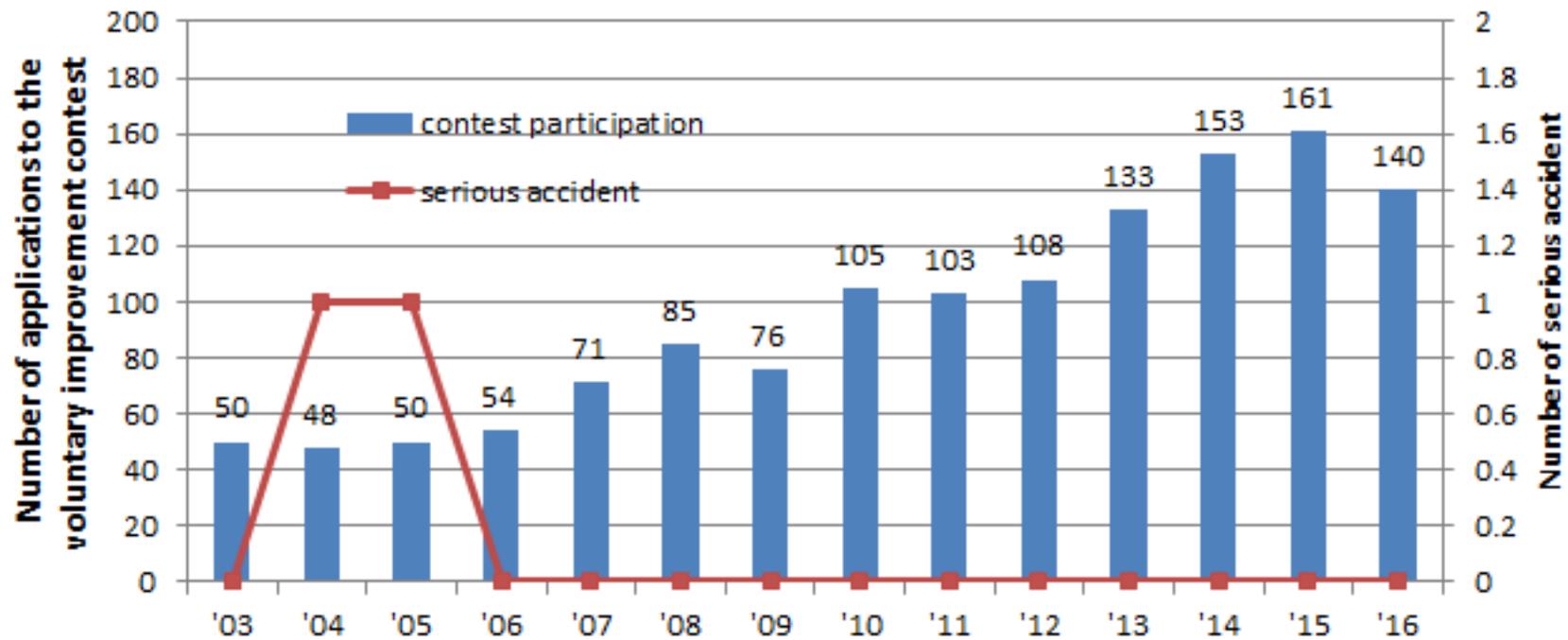


Figure 1: Number of applications to the voluntary improvement contest

Nisshin Steel

Award: Safety
Category: Workplace Improvement

Search for Risks in Daily Activity

Challenge

There may be a risk in the daily work of which the operator is unaware. If the managers and supervisors can identify all risks together with the operator, this problem can be reduced.

The purpose of this activity is to guide and assist the operator, not to detect fault and shortcomings.

Action

Before starting work on site, the operators should identify the risk points (pictures 1, 2 and 3); as well as the action points.

The operators should ask where the risks are in their daily work:

1. What is a risk and how do we deal with it
2. If a new risk arises, how do we deal with it

The operators confirm the instruction contents with the site leader and make sure that the site leader has enough information about the risk, the action plan and the rules to follow.



Picture 1: Confirming where risks are present before starting the work day



Picture 2: Confirming where risks are present before starting the work day



Picture 3: Confirming where risks are present before starting the work day



Nisshin Steel

Award: Safety
Category: Workplace Improvement

Search for Risks in Daily Activity

A site manager needs to be able to predict where there is a risk. He acquires this skill through safety training.

One of the training sessions is role play. Each role is played as it would be on-site. During the role play a variety of common risk situations are played.

The activities for risk identification are described in a file. Every month an activity report will be submitted to the safety department. The manager will comment about the quality and content and the efforts are evaluated.



Pictures 4 and 5: Safety training of the managers through role play

Outcome

Through the safety checks and training, hidden risks may be found. Staff members obtain an incisive analysis for various hazards.

The operators become aware of the potential risks that are there, but are invisible.

All members and department communication became easy through instructions from managers to site leaders.

These activities can be achieved on a basis of encouragement and respect.

Nisshin Steel

Award: Safety
Category: Workplace Improvement

Young site leader safety activity

Challenge

Our safety activity has been organised by the Command hierarchy. We do however have bottom-up style activities like near-miss measures and improvement proposals which are based on personal opinion. In order to collect the free opinions of employees without the interference of the company organisation, the Young Site Leader activity plan was created.

Action

As a first step a group is formed. It mainly consists of a young site leader (a person under 30 years of age) who will be the object person and temporary member who participates in these activities depending on the situation (ex. observer who is a group leader of each plant, site leader, safety officer etc.). According to circumstances, some chief & foreman temporarily attend as an observer. Each group will at least have a group leader, a site leader and a safety officer. There is a daily rotation system.

The second step is a meeting in January to discuss the activity plan. The meetings will be repeated on a monthly basis.

An activity case is shown in the pictures below.



1. Inspection patrol



2. Protective equipment check list

Nisshin Steel

Award: Safety
Category: Workplace Improvement

Young site leader safety activity



3. Confirmation grooming mirror



4. Setting warning sign



5. Guideline development and distribution

Outcome

These safety activities are based on the Young Site Leaders. It has become a continued improvement programme based on a voluntary activity. After the awareness for safety is activated with these young

team members, the activated member is to work on all plant safety activity steadily. This bottom up safety activity has been spread to all plant work.



Nisshin Steel

Award: Safety
Category: Workplace Improvement

Technical Committee Safety Activities

Challenge

Safety activities are usually conducted per department. Cross-departmental problems are therefore difficult to handle. If there are walls between the organisation system, it prevents problem-finding. We established a cross-departmental expert committee which responds to specific issues together with the usual safety activity. The chairman of the committee regularly reports to the president directly.

Action

The structure and activities are set out as follows (each committee has a chairman and from 14 to 21 persons in the committee):

1. Safety equipment committee
 - Facility safety check in case of construction and remodelling of facilities. The committee conducts an inspection point for workers to be safe.
 - Facility safety diagnosis. In order to eradicate disaster. The committee does a safety diagnosis implementation sequentially by design.
2. Crane slinging committee
The cranes will regularly be tested. This committee also tests new cranes when they arrive.
3. Fault Accident Eradication Committee
This is an open-rank safety training for new-second year employees and mid-level employees. They follow a seminar to keep the safety discipline.
4. Transport Safety Committee
This committee provides seasonal traffic safety promotion and traffic safety information. An inspection patrol will check the parking lot and the road traffic.
5. 5S Promotion Committee
A 5S Promotion Day is organised in the whole office.
 1. About 100 employees clean up the road and the site
 2. Health management check-prevention
 3. Food poisoning patrol
 4. Non-smoking rules patrol
 5. Opening health workshop
6. Environment protection and disaster prevention committee
This committee organises a fire prevention campaign in spring and autumn. They do safety promotion for the handling of hazardous material and environmental management awareness month is organised. They further organise a high-pressure safety activities week.
An opening disaster practical course and comprehensive disaster-preparedness drill for new employees are provided.
7. Pointing and calling promotion committee
They organise the confirmation patrol for pointing and calling when cross-walking on site.
Documents to promote pointing and calling are distributed.



Nisshin Steel

Award: Safety

Category: Workplace Improvement

Technical Committee Safety Activities

Outcome

A quick response to cross-departmental activity is now guaranteed. Each committee will adjust its member's department role and will be aware of the problems that have been shared.

The safety activity is revitalised. As each committee is given responsibilities and functions, they are growing in their roles.

Through the development of activities each committee will have expertise in other fields. Experts in the committee are from each department and they share their knowledge. It leads to the improvement of the skills and the activities of the department.

Nisshin Steel

Award: Safety
Category: Accident Analysis

Improvement of near-miss report format

Challenge

We are constantly gathering reports of near-misses that happened in our factory. In 2007 there were 237 cases, but gradually the amount of cases diminished to only 25 in the year 2012. After investigating the opinions of the workers, we found out why. The form was difficult to fill out and there was a misunderstanding between the site workers and the safety management.

Action

We changed the near-miss report to the 4M4E-style report, which is simpler. It makes it easier for workers to fill out the report.

The number of reported cases from each section was summarised and reported at the plant safety meeting.

To spread the information internally, the route mentioned below is followed:

1. Circulation within the department and sign of. Comments are added and it is sent to the Department Director

2. Department Director signs and adds his comments and counter-plans. It is then sent to the responsible department.
3. The responsible department confirms the comments and the counter-plan and makes sure countermeasures are taken.

The contents of the near-miss report are important information for everyone and we make sure that they are well-known, since a near-miss can lead to serious hazard.

Outcome

The average participation rate of the simple report was 50%.

We conducted a questionnaire about the improvement of safety awareness. The outcome was that:

1. The safety awareness has a little bit improved. In the first year it went from 80% to 90%.
2. The ability to detect the dangerous points was improved, but we found some cases which did not

lead to measures. The correspondence with the administrator can therefore still be improved.

The image shows two versions of a near-miss report form. The top form is the old, more complex version with a title 'ドッキリ! メモ' (Dokkiri! Memo) and various fields for date, time, location, and description. The bottom form is the 'Near miss Simplification report', which is much simpler and more user-friendly. It includes fields for 'When & Where have you encountered (fall) risk?', 'When?' (year, month, day, AM/PM), 'Where?' (Work place, TEAM, age), 'Who?', and 'How did you deal with it?'. It also has a 'Simple illustration' section and a 'Confirmation' section with checkboxes for 'A less', 'Clean', and 'D less'. The new form is designed to be easier to fill out and understand for workers.

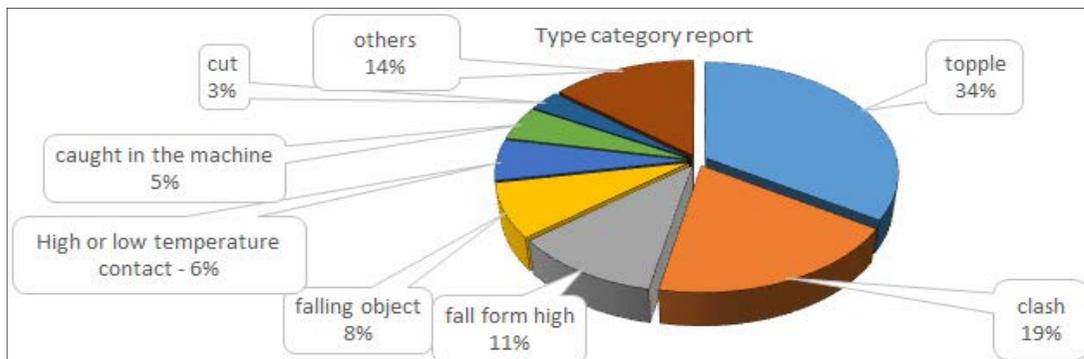
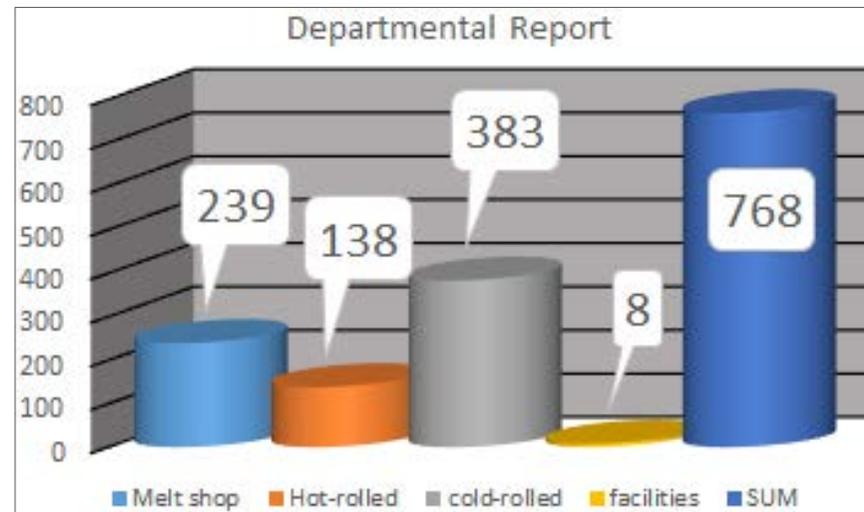
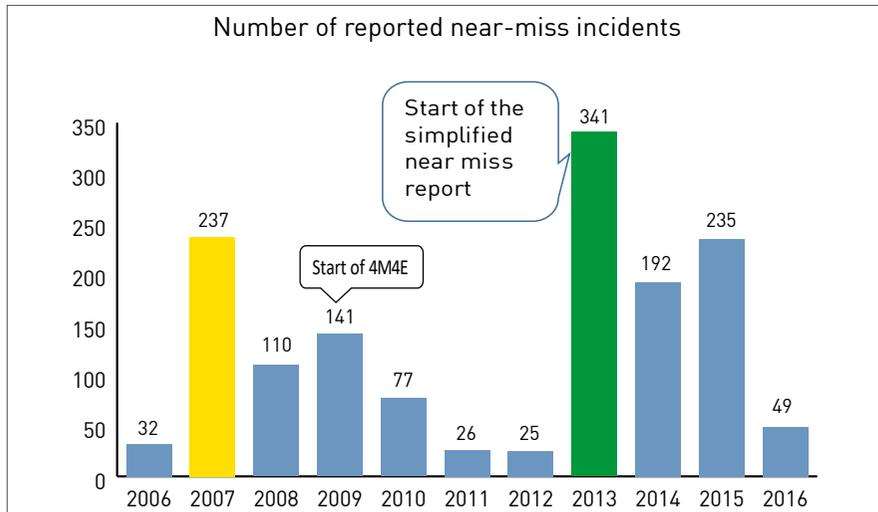
The improved near-miss report that employees have to fill out



Nisshin Steel

Award: Safety
Category: Accident Analysis

Improvement of near-miss report format



Nisshin Steel

Award: Safety
Category: Workplace Improvement

Potential risk extraction by VTR & heads-up improvement

Challenge

We detected an unsafe state of operations which occurred regularly. The activity led to a higher safety awareness sharing amongst colleagues. At the same time we conducted safety measures to avoid accidents at work.

Action

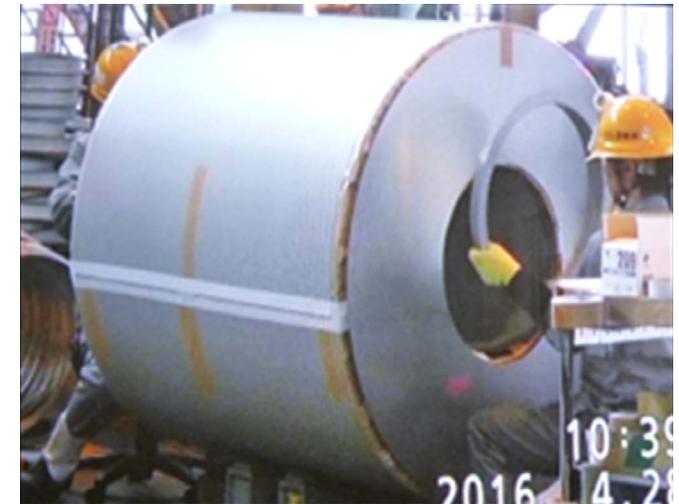
1. Sponsorship
The Safety Technical Committee is in charge (it consists of an elected safety officer for the safety activity)
2. Participants
All site employees, regardless of the employment form
3. Implementation method
The Safety Committee decides which activity should be recorded during approximately 15 minutes. The recorded DVD is circulated to each site group and viewed in their safety meeting. The site members/attendees present their opinion report on the potential risk(s) in writing. The Safety Committee summarises

the report and reflects the safety measure.

4. In 2016 the following operations were the target of the safety activities:
 - Power sector: waste water treatment facility cleaning
 - Transportation sector: export packing work
 - Equipment sector: shear cutting blade exchange



Wastewater treatment facility cleaning



Export packing work

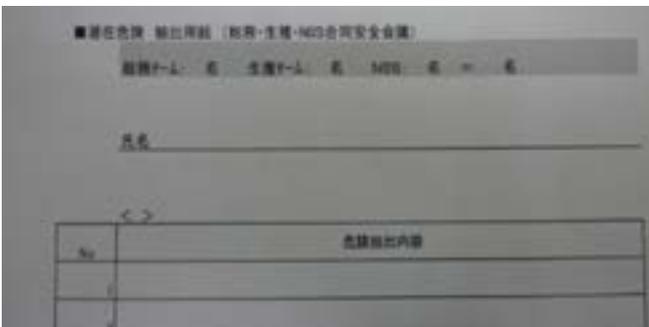
Nisshin Steel

Award: Safety
Category: Workplace Improvement

Potential risk extraction by VTR & heads-up improvement



Shear cutting blade exchange



Specified format for this activity

Outcome

A typical improvement case was the one of the safety fence in the scrap storage box space. The fence used to be a mobile one and was changed to a retractable one.

This was a conventional problem, where the equipment is too heavy to move freely (there

is a risk for falling and pinching during the movement). On the right side the fence is installed in contact with the passage. When material is being transported, it gets in the way and there is a potential risk of overturning. After the improvement it became easy to move the fence without any effort and there is no barrier when the material needs to be transported.



Before: fence is hard and heavy to move



After: fence is easy to move



Nisshin Steel

Award: Safety
Category: Workplace Improvement

Fall prevention equipment from outdoor track

Challenge

In order to make the loading ratio of tracks higher, the height of the products on the track bed became higher also. As a result, the site workers have to do heavy work at a height. This is dangerous and there is a risk of falling.

It is also difficult to keep an escape zone. When the track is loaded with pipe products, almost all of the space on the track bed becomes full. If a mountain of products crumbles, there is no space left to evacuate any staff that has fallen.

Action

The company only owns a few cars, the rest of them are leased. Therefore, it is hard to modify the vehicles.

As per principle we do not countermeasure in the case of a fall, but we design facilities that will not cause equipment to fall.

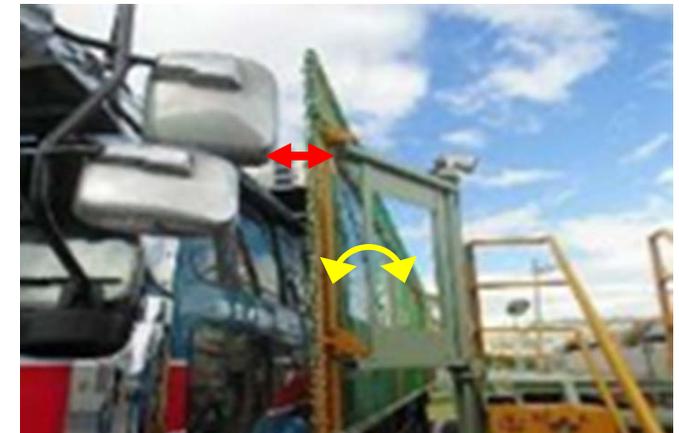
We take simple measures that reduce the burden and efforts on the side of the driver.

The equipment to be installed will be examined according to the circumstances. In a new facility,

the same kind of design will be used.



*Equipment solution 1
 A net is fitted closely so a fall from the track bed will cover the gap can be avoided*



By rotating the handle, the net can be moved



Nisshin Steel

Award: Safety
Category: Workplace Improvement

Fall prevention equipment from outdoor track

Equipment solution 2

In order to eliminate the gap between the yard and the truck bed, the workbench can be expanded to the truck to fill the gap.



After the car is manoeuvred next to the workbench, the workbench can be widened



The gap is eliminated by an extension.

Outcome

After we introduced this facility, zero accidents have happened. The fall prevention equipment has the effect to increase the safety. The truck driver can now work with an easy mind.

Since this facility can be seen from the roads above the facility, we have received inquiries from other companies in the same industry. Unexpectedly we could therefore advertise the high level of safety awareness at the Amagasaki plant.



Nisshin Steel

Award: Safety
Category: Safety Training

Confirmation of Pointing and Calling

Challenge

The awareness of safety was low and many accidents were caused by unsafe behaviour. In order to make a habit of the safety consciousness (especially in machine operation time), before we cross the pedestrian cross-walk, we have to point and call.

Action

A cross-walk that is used twice when going from the dressing room to the workplace was selected. We installed stickers so one can see that this cross-walk was specified. Before crossing the road you have to shout e.g. right left, all clear!

Since we cannot implement it by merely contacting all staff members, the guidance is repeated many times by a patrol. The persons in charge of the patrol range from managers to young employees. We feel it is important for them to check with their own eyes the implementation of this safety procedure. For the times when there is no surveillance, a machine was installed which reminds the pedestrians to stick to the





Nisshin Steel

Award: Safety
Category: Safety Training

Pointing and calling at the cross-walk

rules. Since this takes place outdoor, it is easy to confirm even from afar whether people have been pointing and calling.

Outcome

It led to the improvement of the safety consciousness by confirming the pointing designation at a predetermined crosswalk.

Moreover, workers were able to understand the judgment of the activity situation objectively, and it became obvious they are conscious about safety.



Nippon Yakin Kogyo

Award: Safety
Category: Skill Training

Implementation of Management Training Course for Site Leaders

Challenge

It is rare for our site workers to be transferred to another department because they are required to get the professional skills for their own department. As a consequence the workers do not have a deep knowledge of the other departments and the overall structure of the company.

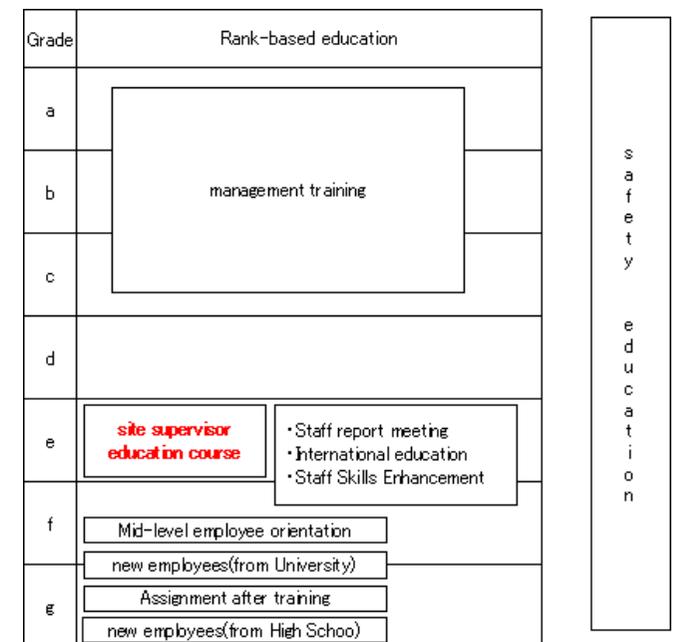
Action

In order to improve this situation, they have to study the work, technical side and expertise of other departments in order to get more knowledge of a more efficient production process. For the first time, we have therefore conducted an education programme for the Site Supervisors which is consistent with the knowledge and job content of other departments.

The training course provides an explanation with illustrations of a specific example in every month (one day, 2 hours) from June to March. The course details are labour control, production process, ISO, electric control, instrumentation and measurement and a factory tour.

Outcome

Through the training course of labour management, production process, production technology and lecture of other departments' operation, the Site Supervisors could enhance their interest, awareness and motivation to their assignment.



The training course is a rank-based training for Site Supervisors



Nippon Yakin Kogyo

Award: Safety
Category: Accident Analysis

Preventive measures against labor accidents by CA

Challenge

At our plant, we have implemented a Safety Priority Action plan to prevent work accidents and health problems amongst employees. Our goal is to keep the employees safe.

In the case of a labour accident, we utilize the 4M Analysis (Man-Machine-Material-Method) to analyse the direct cause and indirect background. However we have to make sufficient analysis with the investigation at the actual place and the persons who are involved in the accident. Therefore we have to take immediate action whenever the accident occurs.

Action

We identify an accident by classifying it in one of the 4 following sections: serious - lost worktime - cases without lost worktime - near miss. Through these we will try and prevent the recurrence of a similar accident and realise a safer workplace.

In case of a serious accident (fatal or three or more victims) or a lost worktime accident, an

(Accident) Investigation Committee shall be established (or organized) . They shall investigate the process, root cause, corrective actions and background of the accident based on the related report. The members of the concerned department are required to follow the special safety improvement program during three months. The operators, operating team leaders, site supervisors shall wear an armband during this period of time.

In case of a near miss the Health and Safety Committee, which meets once per month, will request the department to submit an accident report about the process, cause, measure and background. After six months we confirm the effectiveness of the corrective action.

Outcome

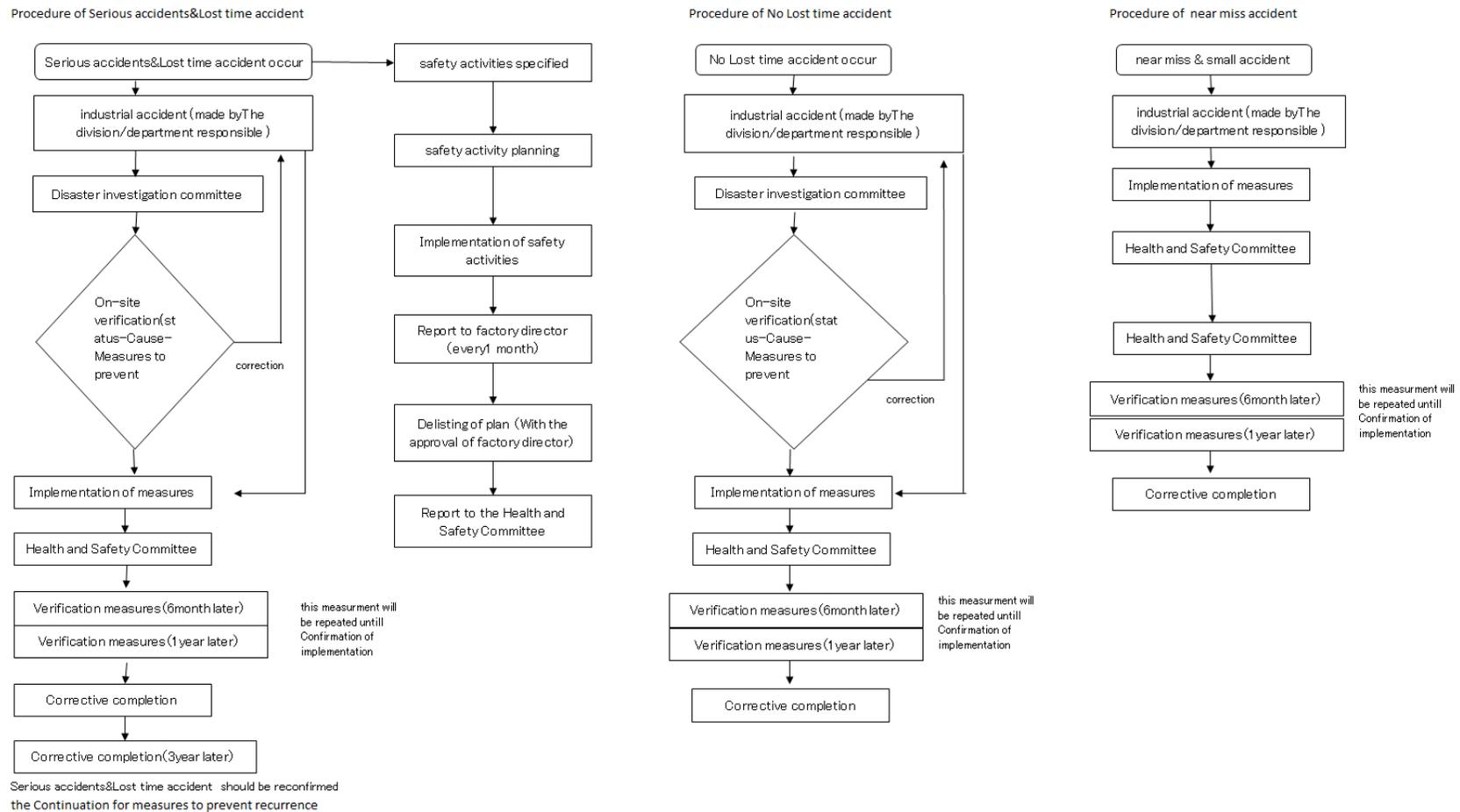
This method leads to effective measures being taken to prevent the recurrence of accidents and to make our plant a safer place to work.



Nippon Yakin Kogyo

Award: Safety
Category: Accident Analysis

After work related accidents - take measures to prevent recurrence by CA





Nippon Yakin Kogyo

Award: Safety
Category: Safety Training

Introduction of the Risk Assessment Method at the Stage of Facility Design

Challenge

At our plant, we have implemented a Safety Priority Action plan to prevent labour accidents and health problems amongst employees. Our goal is to keep their bodies and mind in good condition.

We do our best efforts to make our plant safe in the essential way, utilising the risk assessment method. Due to limited space or layout of facilities in the factory, it is not easy to improve the safety drastically (or realize the complete safety), especially when equipment needs to be modernised or remodelled. Although we recognize that the introduction of risk assessment method at the stage of facility designing was necessary, especially when the facilities were repaired or installed, our staff of design department did not have enough knowledge of the risk assessment method.

Action

We added additional training opportunities for each member of our personnel on a regular basis. The following courses were offered:

1. Simulation of a machine disaster
2. Related laws and regulations about the guidelines concerning the comprehensive safety standards of machinery, the hazards and risks included.
3. Safety principles of the machinery
4. Reduce the risk and the risk assessment of the use stage of the machine.

The specifications are circulated to all departments at designing stage to double check the risks and are reconfirmed by the risk assessment method even after the facilities are installed.

Outcome

Safety of several places in the plant were improved with this method.

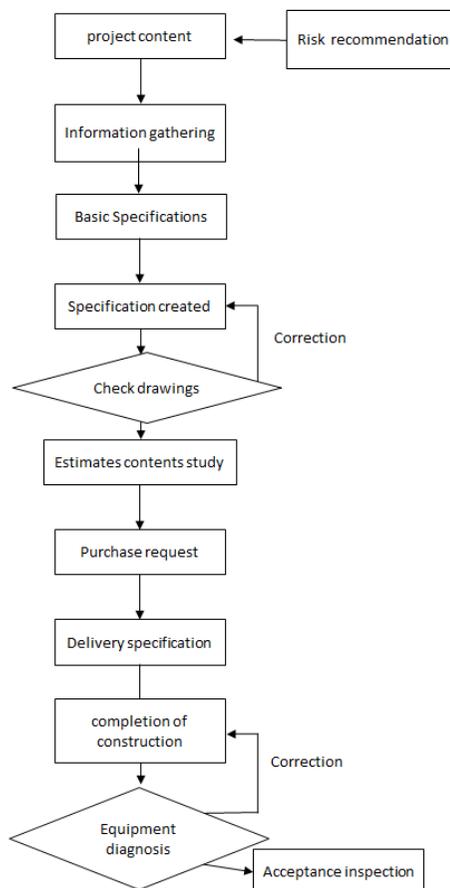
1. Test slit device: we discovered there was a safety problem between the material and the human i.e. between the rotation device and the person handling it. After the consideration of the risk, we added six additional specifications to the original structural design. The design became one with a better safety awareness.
2. Acid tank update: the main risk is the contact of the acid with the operators. To be completely safe, we reviewed the current acid tank which seemed to have insufficient contact prevention measures. As a method to improve the safety of handling the acid tank, we added contact prevention measures to the specification. At the same time, we repositioned the lid to prevent damage to the liquid level indicator.



Nippon Yakin Kogyo

Award: Safety
Category: Safety Training

Risk Assessment Support from Facility Design



We conducted the risk assessment and found that regular safety education for the Equipment and Machinery Engineering Department is more effective. Because education makes it possible to reflect safety knowledge necessary for the facility from the beginning.

Risk Assessment Extraction Examples

When we introduced the laboratory equipment, we thought there were only 3 problems. But through this method, we discovered there were 7 problems. 4 hidden problems were thus found with this method.



Nippon Yakin Kogyo

Award: Safety
Category: Workplace Improvement

Countermeasure against Heatstrokes in the High-Temperature Work-Environment

Challenge

At our plant, we have implemented a Safety Priority Action plan to prevent work accidents and health problems amongst employees.

We have High-Temperature Environments in our plant, such as the blast furnace, heat-treating furnace etc. In summer the WBGT* value becomes more than 30 degrees centigrade. Until now, we have already conducted education and training in case of a heatstroke, but in order to improve the situation we need to take drastic measures.

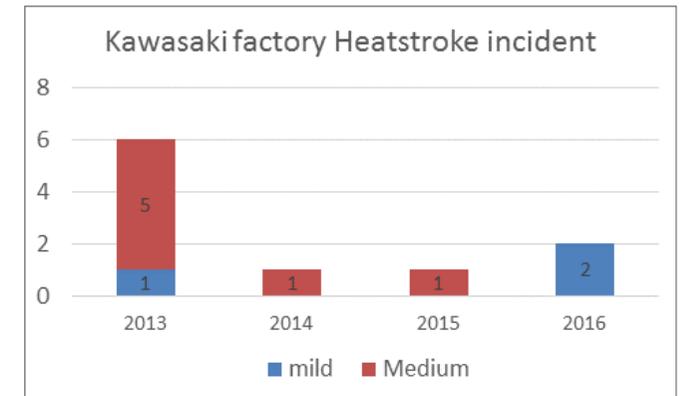
Action

We installed a fan and a Spot Cooler in all the manufacturing offices and distributed sports drinks as a preventive measure against heatstrokes in the workplace. We also furnished the break-room with air-cooling.

Outcome

These actions were started from 2014 and have reduced the occurrence of heatstrokes from 6 per year to 1 or 2 per year. There are also safety measures in place to protect the workers from accumulated fatigue.

As can be seen in the graph, the number of heatstroke incidents was reduced, however there are still a few incidents per year. Our target is to eradicate heatstrokes completely and we will therefore seek further measures.



* The wet-bulb globe temperature (WBGT) is a type of apparent temperature used to estimate the effect of temperature, humidity, wind speed (wind chill), and visible and infrared radiation (usually sunlight) on humans.



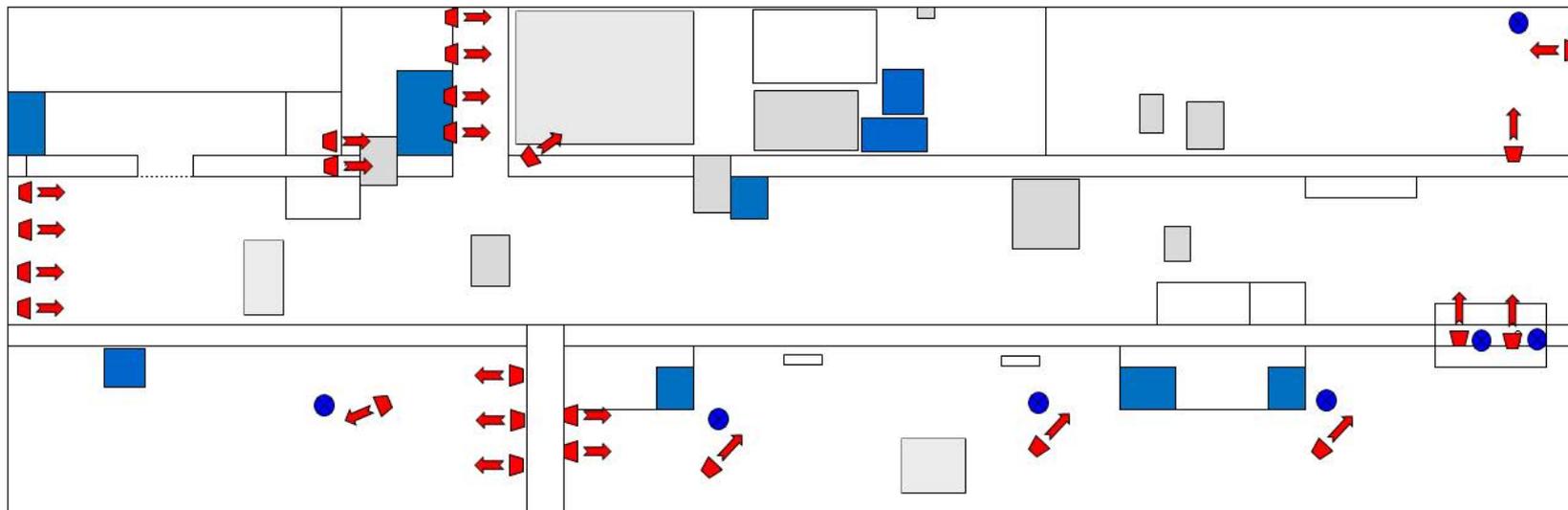
Nippon Yakin Kogyo

Award: Safety
Category: Workplace Improvement

Heatstroke Countermeasure in the High-Temperature Work-Environment

Countermeasures against heat Example

-  Circulator was placed this sign location
 -  spot cooler was placed this sign location
 -  Break room with Cooling
- we installed Circulator and spot cooler as countermeasur.
Airflow made by circulator make spot cooler more effective.





POSCO

Award: Safety
Category: Safety Training

Safety Improvement by Making a Short Film

Challenge

POSCO attempts continuously to reduce or eliminate safety accidents in the workplace. However, workers are exposed to fatal and other accidents.

To prevent accidents from happening, POSCO tries to:

1. Regularly educate all employees
2. Put up banners around the plant and offices to alert staff of the dangerous places
3. Patrol the work place by safety masters etc.

Nevertheless, managers emphasise to employees that it is important to think of safety at all times.

So, POSCO developed ways to awaken safety awareness by employees.

Action

POSCO has developed the system that employees make short films about accidents and near-misses that happened.

The employees, including the person that was directly involved in the accident, make a short film about the accident they experienced in the workplace. The film has to show how and why it happened and what the problem was. And, they must propose a way to prevent it from happening again.

Many employees are involved in making short films and they get lots of information this way.

Also, before the start of any meeting, all attendees should watch one film that is made by the employees, in order not to forget the dangerous situations at the factories.

Outcome

Since POSCO started with the making of the short films, the safety accidents rate has reduced. No accidents have occurred in the STS section since 2013.



Acerinox

Award: Sustainability

Category: Environmental management system (EMS); Value to the customer

Improvement of the operational control in cold rolling under the Environmental Management System

Challenge

Acerinox customers received products registering quality defects coming from cold rolling.

Action

The operational control of cold rolling has been improved. The sequence of polishing lines has changed within the cold rolling schedule and the defects have now been registered.

Outcome

Acerinox offers a better quality product to customers and the Environmental Management System (EMS) introduces an improvement of its operational control within cold rolling.

Outokumpu

Award: Sustainability
Category: Emissions; Value to the customer

Reducing Transport Emission by New Technologies

Challenge

Climate change is at the top environmental priorities today and mitigation of greenhouse gases has become a challenge for many organisations. Transports using fossil fuels are a significant source of greenhouse gases. In Sweden it is estimated that transports contribute to almost a third of the country's total emissions of greenhouse gases. Outokumpu's integrated stainless steel plant in Avesta requires a lot of transport to and from the closest deep sea harbour which is in Gävle.

Action

Outokumpu is committed to reducing emissions throughout its entire supply chain, including transport. In Avesta, Outokumpu has a close co-operation with a local transport supplier that makes significant efforts to reduce the use of fossil fuels. Their trucks have converted 100 % to biofuels and now there is a new project involving an electric road. Outokumpu is proud to take part in the project along with other industrial companies. The electric road project aims to

reduce the use of fossil fuels with the help of electrification in road transport.

The first electric road was opened in Sweden in June 2016. Outokumpu stainless steel will be transported through the road. The two-kilometer-long electric road for heavy-truck transport has been inaugurated at an on-site ceremony on 22



Visit of the German Chancellor Angela Merkel.

June. The project is the first of its kind on a public road anywhere in the world. Electrically powered trucks will be strolling along the road once a week up till 2018. The purpose of the project is to demonstrate the potential for operating heavy vehicles without using fossil fuels. The trucks receive the power from overhead lines through a pantograph power collector. The trucks are charging their batteries during the 2 kilometre test stretch, which enables them to drive another 5 km powered by the charged battery. The road is located near the town of Gävle. Gävle port is an important hub and all container traffic to Outokumpu Avesta comes via the Gävle port.

The electrical road project has attracted a lot of interest also internationally, and visitors from Japan, Italy, Netherlands, Norway etc. have come to see how it works. In 2017 the plan is to increase the steel transports further on the test road when a new hybrid truck with increased load capacity will be delivered.

If the project goes well, the next goal is to electrify the entire route from the port of Gävle



Outokumpu

Award: Sustainability
Category: Emissions; Value to the customer

Reducing Transport Emission by New Technologies

to Borlänge. Afterwards the vision is to create a triangle of electrified roads in the region. This would mean that the entire highway stretch from Gävle port to Outokumpu Avesta would be electrified.

The electric road project is a cooperative effort between Swedish business and academia as well as government authorities. Trafikverket, the Swedish Energy Agency, the Swedish innovation agency Vinnova, Scania, and Siemens are the chief financiers, and Region Gävleborg is coordinating the project.



Outcome

Mainly by switching to biofuels instead of fossil fuel, the transport supplier has managed to decrease their emission factor. "Normal diesel" is estimated to have an emission factor of 0.029 g/ton/km, but by switching to biofuel the emission factor for transported Outokumpu goods is about 0.009 g/ton/km. With the new electrified road, the emission factor will decrease even more.

The road reduces fossil fuel emissions by 80-90 per cent and the energy usage is halved thanks to the efficiency of electric motors. Operating costs will also be low, since less energy is required and electricity is a cheaper source of energy than diesel.



POSCO

Award: Sustainability
Category: Energy Intensity

Improvement of Energy Intensity by Energy Saving System

Challenge

POSCO has lots of plants in 2 principal works, Pohang and Gwang-Yang. Each plant has been doing various activities to save energy and to level-up their efficiency. Even-though the plants have specialised techniques and know-how on energy intensity, it has been difficult to measure indicators and share information.

Action

POSCO has made an Energy Management System.

Firstly, POSCO made the energy management system which was called "POSCO Energy System". All POSCO operating plants can check their energy consumption from this system on a monthly basis, so they can compare with the previous period and check the energy that was saved through their energy saving activities. In addition, all plants can also check the energy consumption of the other plants in the group.

Secondly, all factories can share their activities to improve energy intensity with other factories. If

it is possible to apply the improvements in other factories, they will also perform this action.

Outcome

The POSCO STS division has intensively used this system in the past year.

Seven factories have done a lot of improvements, which reduced the related energy cost by 2.5 million dollars.



Slovenian Steel Group; SIJ Metal Ravne d.o.o.

Award: Sustainability

Category: Emissions; Investment in new processes and products; Value to the customer

Utilisation of High Temperature Waste Heat of UHP Furnace and Support for Sustainable Development of Neighbouring District Heating System

Challenge

SIJ Metal Ravne Ltd is part of the Slovenian Steel Group and has almost 400 years of tradition in production of high quality steels. In addition to developing specific skills, the company continues to build its future with modernization of its technological equipment. Strategic investments, such as the forge for heavy forgings, the mill for heavy profiles and casting plant represent the expansion of the company's offering. Continuous improvements support the company's efforts to meet the quality needs, demands and expectations of suppliers, customers, employees, shareholders and ultimately the environment. With such an attitude to partners and the environment SIJ Metal Ravne Ltd was among the first in Slovenia to obtain the ISO 9001 quality certificate and the ISO 14000 certificate. In the case of the SIJ Metal Ravne Ltd, future development of the company and its infrastructure is not only a vision, but a creative, local process of establishing a solid base for further development of the neighbouring municipality Ravne na Koroskem, a base which encompasses all fields from planning and decision making to execution of

individual projects. SIJ Metal Ravne Ltd is firmly anchored in its local and regional communities, and is a guarantee of social cohesion and stability. Average annual energy consumption of SIJ Metal Ravne Ltd is around 450 GWh and average annual CO₂ emissions amounts to 70 kt. A large portion of the total financial expenditure in the production of special steels is allocated to cost of energy.

Constant needs for improving competitiveness are forcing SIJ Metal Ravne Ltd to systematically and continuously analyse all possibilities for the optimization of production activities and related costs reduction. In this process waste heat utilisation within the company and through support for sustainable development of neighbouring district heating system was recognised as the key element of the future sustainability strategy of the SIJ Metal Ravne Ltd and neighbouring municipality of Ravne na Koroskem. The overall goal is to up to year 2025 completely replace all fossil fuels that are currently used for heat production in the local district heating system with the waste heat from the SIJ Metal Ravne Ltd. The basic idea behind

utilisation of high temperature waste heat of UHP furnace, which is considered as the first step in the overall sustainable transformation, was to clearly demonstrate energy and emissions saving potentials, boost the confidence of management board, employees and citizens of neighbouring municipality.

Action

Waste heat is recovered from the UHP electric arc furnace and through a heat exchanger transferred to the local district heating system. The new heat exchanger is placed in the vicinity of the existing cooling towers through which, in the past, the waste heat was released to the environment. Successful implementation of this action has clearly confirmed the commitment of all involved partners (SIJ Metal Ravne Ltd, local municipality and district heating operator) that waste heat utilisation is in their strategic interest. Additionally, early achievement of positive results has opened the door for new pilot and demo projects and special emphasis has been placed on the state-of-the-art technologies and

Slovenian Steel Group; SIJ Metal Ravne d.o.o.

Award: Sustainability

Category: Emissions; Investment in new processes and products; Value to the customer

Utilisation of High Temperature Waste Heat of UHP Furnace and Support for Sustainable Development of Neighbouring District Heating System



New heat exchanger for waste heat recovery

developing pilot initiatives based on advanced solutions for waste heat utilisation designed to provide emissions reduction on local level. This action has a very high replicability potential since there is around 60 additional waste heat sources at the location of SIJ Metal Ravne Ltd. For a better utilization of the intermittent character of the recovered energy flows and its variations during normal hourly operating conditions, it is envisioned that an additional heat storage unit will be installed in the near future.

Outcome

The utilization of waste heat has partly replaced the natural gas used for heat production by the local district heating operator. This action was implemented in August 2015 and a direct result of the waste heat utilisation is that approximately 750.000 Sm³ of natural gas were saved on an annual level, which is equal to a cost reduction of 294.800 €. Accordingly, CO₂ emissions were reduced for 1,413 tons annually. This action represents the example of excellent energy and environmental practice on the Slovenian and European level. Efficient



New installation at the distributor side

and effective implementation of this action has helped decision makers in the neighbouring municipality to become aware of the synergy potentials between energy intensive industries and local community in projects related with the energy efficiency, reduction of CO₂ emissions, and a long-term reliable and competitive supply of heat. The described action is totally aligned with the European Union energy and environmental strategic goals as it includes an innovative and effective solution to recover waste heat generated in European Intensive Industries. Additionally,

Slovenian Steel Group; SIJ Metal Ravne d.o.o.

Award: Sustainability
Category: Emissions; Investment in new processes and products; Value to the customer

Utilisation of High Temperature Waste Heat of UHP Furnace and Support for Sustainable Development of Neighbouring District Heating System

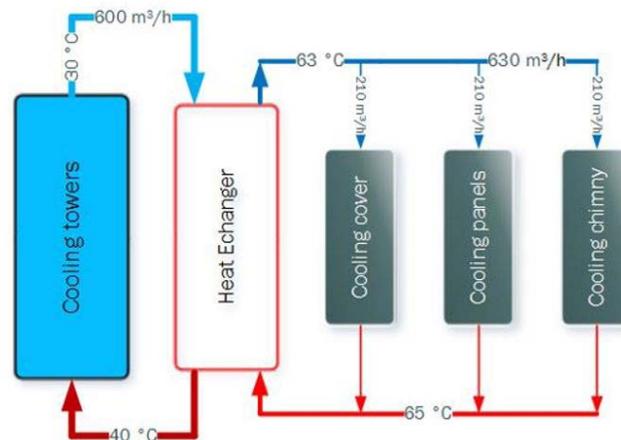
the described action is not only a response to an environmental problem it also represents an important improvement of overall competitiveness of the SIJ Metal Ravne Ltd through lower costs for energy. Please have in mind that SIJ Metal Ravne Ltd is special by its geographic position, universality and relative smallness, which on one

side does not allow the same as to other, larger steel factories to achieve effects of economy of scale. At the same time and due to the same reason, SIJ Metal Ravne Ltd is essentially more flexible regarding the selection of strategy for gaining support of employees and neighbouring communities for development projects,

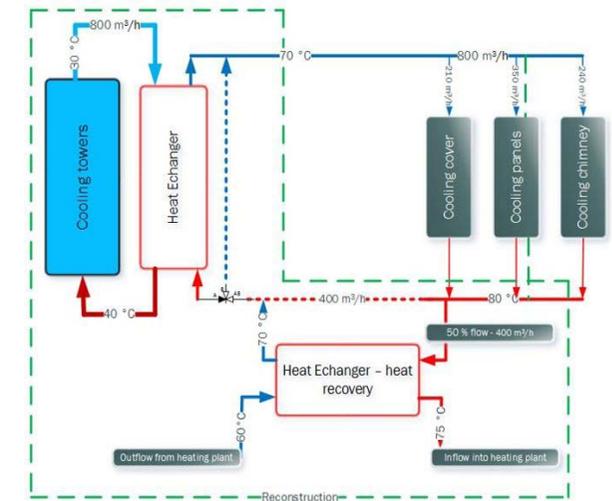
connected with the development of sustainable infrastructure.



New pump station for EAF Cooling System



EAF Cooling System before the adaptation



Current EAF Cooling System







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About ISSF

The International Stainless Steel Forum (ISSF) is a non-profit research and development organisation which was founded in 1996 and which serves as the focal point for the international stainless steel industry.

Who are the members?

ISSF has two categories of membership: company members and affiliated members. Company members are producers of stainless steel (integrated mills and rerollers). Affiliated members are national or regional stainless steel industry associations. ISSF now has 65 members in 25 countries. Collectively they produce 80% of all stainless steel.

Vision

Stainless steel provides sustainable solutions for everyday life.

More information

For more information about ISSF, please consult our website worldstainless.org.

For more information about stainless steel and sustainability, please consult the sustainablestainless.org website.

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