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REPUBLICAN UNITARY ENTERPRISE
«BYELORUSSIAN STEEL WORKS»

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23.02.2011

SUPPLIER QUALITY MANUAL

РКП 840-КСМ-03-2011

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1 CONTENT AND REVISIONS

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2 SCOPE OF APPLICATION

2.1 Supplier quality manual (РКП) is developed so as to coordinate joint business with companies delivering goods, works and rendering services for the plant on the basis of the Code of Ethics (Supplement A).

2.2 РКП is one of the documents aimed at ensuring quality of the raw material, auxiliary materials, parts/ spare parts, accessories, equipment (hereinafter referred as resources) delivered to the plant and compliance with the environmental law.

2.3 РКП regulates the organization of production process provision with defect-free consumables and resources, minimization of the impact on the environment due to joint business.

2.4 РКП applies to the suppliers of goods, work and services for the Republican Unitary Enterprise “Byelorussian Steel Works” (RUE «BMZ») and to the departments working with suppliers.

2.5 РКП is apart of the documentation of the Corporate Management System (QMS) of the enterprise corresponding to the requirements of the international standards: ISO 9001, ISO 9004, ISO 14001, OHSAS 18001, SA 8000, specifications: ISO/TS 16949 and ISO/TS 29001 (API Q1).

2.6 RUE “BMZ” uses instruments of the total quality management (TQM) in its work. РКП serves to distribute the experience of improving product and management quality of our customers, our plant and our suppliers along the customer – producer – supplier chain which corresponds to the mutual interests of the parties and helps to further develop mutually advantageous cooperation.

2.7 РКП requirements should initiate development and introduction of a management system at our suppliers in compliance with the requirements of the corresponding standards: ISO 9001, ISO 14001.

2.8 РКП is developed to replace РКП 840-СМК-02-2004 «Supplier Quality Manual».

2.9 See РКП at RUE “BMZ” web-site: www.belsteel.com.

2.10 If you have any questions regarding the requirements of this manual, please, refer to the corresponding procurement service address:

RUE “BMZ” 37 Promyshlennaya str., 247210 Zhlobin, Gomel region, Republic of Belarus.

3 NORMATIVE REFERENCES

РКП contains references to the following documents:

ISO 9001:2008 Quality management systems. Requirements

ISO 9004:2009 Managing for the sustained success of an organization – A quality management approach

ISO/TS 16949:2009 Quality management system – Particular requirements for the application of ISO 9001:2008 for automotive production and relevant service part organizations

ISO/TS 29001:2010 Petroleum, petrochemical and natural gas industries – sector-specific quality management systems – Requirements for product and service supply organizations

ISO 14001:2004 Environmental management systems. Requirements with quidance for use

OHSAS 18001:2007 Occupational health and safety management systems – Requirements

SA 8000:2008 Social responsibility 8000

ГОСТ 24297-87 Product incoming inspection

ГОСТ 30333-2007 Chemical product safety certificate. General requirements

4 TERMS AND DEFINITIONS

Analysis – activity aimed at determining suitability, adequacy, effectiveness of the object concerned for achievement of the objectives set forth.

Rejects – finished product or product of any process stage which quality does not conform to the established standards or technical requirements or contract specification and cannot be used according to its intended purpose or can be used only after additional expenses for repair.

Product delivery agreement (contract) – a legal document evidencing a purchase contract with a customer (user) containing commercial and legal parts as well as a technical part described in an annex.

Identification – determination of the object compliance with its state (raw materials, auxiliary materials, semi-product, finished product) and status (suitability or unsuitability) by marking and accompanying records.

Quality – the degree with which a set of characteristics meets the requirements.

Corrective action – action taken to eliminate the detected non-conformity or another unwanted situation.

Customer's loyalty – favourable attitude towards the enterprise and its mix of products.

Marking – application of information on the object with the help of stamping or labeling, tagging or attaching a nameplate.

Unfair supplier – a supplier breaking the obligations undertaken towards RUE "BMZ".

Non-conformity – unfulfilled requirement.

Non-conforming product – product which does not meet the requirements of the normative documents or technical normative legal acts (TNLA) for the product and which cannot be used according to the intended purpose.

Approved supplier – a supplier included in The List of Approved Suppliers.

Delivery of product – time and place where according to mutual agreement the right to product ownership is transferred.

Supplier – an organization or a person delivering products, work or services in accordance with the agreement (contract) signed.

User – a subdivision of the enterprise receiving the product.

Product – a result of the process.

Traceability – ability to trace the sequence and stages of product manufacturing and handling during its production process, storage and shipment.

Claim – a customer's application regarding non-conforming quality of the product delivered under the contract (agreement) and containing a request to compensate the detriment (damage).

Certification – a procedure by virtue of which the third party (a certification authority) confirms that the product, process or service corresponds to the requirements specified.

Conformity – fulfillment of a requirement.

Special characteristic – a product or process characteristic feature specified by the user and describing safety and state norms and/or set by the supplier due to the knowledge of the product and process, requiring monitoring and introduction into management plans and other technological documents.

Statistical method of product quality assessment – a method of product quality assessment in which product quality values are determined with the help of the mathematical statistics rules.

Technical Normative Legal Act (TNLA) for the product – a document stating product technical requirements (an international, inter-state or national standard, technical requirements, a specification or a technical agreement).

Requirement – need or expectation determined (usually assumed or obligatory).

Non-conforming product utilization– action in respect of the non-conforming product taken to prevent its initial supposed use.

Characteristic – a distinctive feature.

5 GENERAL

5.1 Short information about the plant

RUE “BMZ” is a mini-plant with an incomplete metallurgical cycle the main raw materials for which are scrap and metalized pellets.

Main types of the products manufactured: concast billet, rolled section and structural shapes, wire rod, seamless pipes, tire cord, steel wire and steel fiber.

Mission of the enterprise: production of advanced-technology products to raise the profitability of the enterprise considering environment and health protection and providing a high living standard of the plant’s personnel and satisfaction of all parties concerned.

Vision: be the best supplier of the products satisfying the demand of national and foreign customers in all developed segments of the steel market due to the usage of advanced and environment-friendly methods, rational use of resources and optimal organization of the production processes and management.

Valuables: personnel, environment and rational use of natural and other resources, partners, quality, knowledge, and community.

More detailed information about RUE “BMZ” can be found on our web-site: www.belsteel.com.

5.2 Business together with RUE “BMZ”

RUE “BMZ” is a commercial organization doing business together with the users of the plant’s products and approved suppliers of raw materials, power and other resources.

RUE “BMZ” strictly fulfills the requirements of Customer Manuals of such concerns as Michelin (France), Eaton (the USA), Goodyear (Luxemburg), Gates (Belgium), Parker (Holland).

RUE “BMZ” expects its suppliers to have similar attitude towards the requirements of this РКП located on the web-site: www.belsteel.com which was developed taking into consideration experience of our plant’s product users.

Our joint business is based on the principles of the total quality management (TQM) and the European excellence model of EFQM.

5.3 Rules of relations with business partners

RUE “BMZ” adheres to the rules of relations with business partners set forth in the UN Global Compact, SA 8000 and ISO 26000 international standards.

A supplier bears responsibility for:

– observation of ethic, legal and social norms;

– fulfillment of the environment requirements;

– fulfillment of the local laws and requirements (all local, state and federal laws/requirements in the country of residence);

– fulfillment of labour safety, health protection and environment requirements.

RUE “BMZ” personnel should not run the risk operating with harmful materials (substances) or in dangerous conditions originating due to the shipment of materials by a supplier to RUE “BMZ” or during a visit to the supplier’s enterprise. Materials (substances) representing danger should have clearly visible warnings. Such materials (substances) should be delivered together with the documents containing information about their safe handling and protection, should have a descriptor about material (substance) safety, GOST, TU, etc.

–*Product safety*

If a product is manufactured in accordance with a new project, for new systems or new area of application, a supplier and RUE “BMZ” should distribute responsibility ensuring fulfillment of all requirements related to operation, wear resistance, maintenance, safety, and prevention.

– *Absence of discrimination*

A supplier should not discriminate depending on the race, skin colour, sex, religion, age, physical state, political views or other determining characteristics in accordance with restrictive local, state and federal laws/rules in the producing country.

– *Labour*

Child labour – A supplier should employ people of at least minimum allowed age in accordance with the restrictive local, state and federal laws/rules in the producing country. It is necessary to observe the law prohibiting the use of child labour force.

Forced labour – A supplier should not use forced labour.

Working hours/days – A supplier should not exceed officially allowed number of working hours per day and week in accordance with the restrictive local, state and federal laws/rules in the producing country.

Wages and bonuses – A supplier should effect payment of wages to its workers in accordance with the local, state and federal laws/rules in the producing country. This item also includes official minimum wage rate, payment for over-hours and bonuses (required by the law).

– *Ethics*

If facts of a supplier connection with corruption, bribery, illegal gaining or involvement in other illegal actions or operations will be revealed, all relations of RUE “BMZ” with such supplier will be terminated. A supplier should carry out its business in the way that meets the requirements of RUE “BMZ” Code of Ethics cited in Supplement A.

– *Confidentiality*

A supplier should guarantee confidentiality regarding all types of products stipulated in the contract, projects being developed and information related with these products as well as intellectual property which it received in the result of cooperation.

6 THE PROCESS OF A SUPPLIER INCLUSION IN RUE “BMZ” BUSINESS. SUPPLIER’S QUALITY MANAGEMENT SYSTEM

6.1 Production of high-quality products at the plant is ensured by the use of high-quality resources (raw materials, auxiliary materials, accessories, etc) in the production process.

6.1.1 Quality of the purchased products is provided with the help of careful selection of suppliers which have functioning quality systems, their further assessment from the point of view of fulfillment of the contractual obligations in accordance with Section 8.

6.1.2 Supplier’s quality management system (QMS) should be in compliance with the requirements of ISO 9001.

Availability of a QMS at the suppliers’ is an obligatory condition for the establishment of business relations with RUE “BMZ”. Efficiency of QMS functioning is evidenced by self-assessment (filling of a questionnaire of Supplement Б), inspection by RUE “BMZ” specialists (if required) and certification authorities.

6.1.3 The suppliers providing the required quality of the resources are included in the List of Approved Suppliers.

6.2 The process of business organization between a supplier and RUE “BMZ” consists of the following stages:

1) establishment of confidence;
2) approval of a RUE “BMZ” supplier;
3) success development.

6.2.1 At stage 1 “Establishment of confidence” purchasing services search for and select suppliers by:

– studying the resource market;
– questionnaire polling;
– organizing competition among suppliers;
– determination of the quality of the offered resources;
– studying the price of the resources;
– obtaining the information about supplier’s QMS certification in accordance with the requirements of ISO 9001 or similar national standard;
– purchase of trial lots. So as to check technical capacity of a new supplier and its capability to meet the requirements of the user, control of trial lots of the supplied resources is carried out;
– supplier assessment according to Section 8 and determination of its rating which should be not lower than “acceptable” and its inclusion in the Supplier Assessment Bulletin.

6.2.2 At stage 2 «Approval as RUE “BMZ” supplier” the corresponding purchasing department includes the supplier in the List of Approved Suppliers after the supplier is included in the Supplier Assessment Bulletin with the rating not lower than “acceptable”.

The purchasing service develops mutual targets for a year together with the suppliers and monitors their achievement.

For the supplier rated as “acceptable” the purchasing service works out measures for continuous improvement including supplier audits in accordance with Section 11.

6.2.3 At stage 3 “Success development” the existing purchasing service carries out continuous improvement of relations with the approved suppliers having the “excellent” and “reliable” rating so as to improve the quality of the delivered resources and decrease supply expenses in compliance with Section 10.

6.3 At RUE “BMZ” the following services responsible for purchasing exist:

–Raw Material Supply Department (RMS Dpt.);

–Material-Technical Supply Department (MTS Dpt.);

–Equipment Purchasing Department (EP Dpt.) etc.

RMS Dpt. buys raw materials, auxiliary materials and other things including scrap, cast iron, ferroalloys, alloying additives, slag-forming and carbon materials, refractory articles, aluminum (pig aluminum, aluminum wire rod), lead, nickel.

MTS Dpt. buys ferrous and non-ferrous metals, hardware products, bearings, maintenance materials, fuels and lubricants, automotive and lifting machinery, spare parts and office accessories, furniture, consumables for the copying centre, household and domestic goods, etc.

EP Dpt. buys main facilities, equipment for capital construction objects, revamping and modernization, replaceable equipment, spare parts and materials for repairs in the Republic of Belarus, CIS and foreign countries.

6.4 At stage 1 “Establishment of confidence” RMS Dpt., MTS Dpt. and EP Dpt. act according to item 6.2.1. So as to implement a contract with a selected prospective supplier the purchasing service sends a letter with a questionnaire (see Supplement Б) requesting to get acquainted with RUE “BMZ” РКП and supply a copy of the supplier’s QMS certificate issued by an independent certification authority.

Note: at the supplier’s request the purchasing subdivision can send an unregistered electronic or paper copy of RUE “BMZ” РКП.

6.5 After the receipt of a filled questionnaire from the prospective supplier (Annex В) with an official declaration of the supplier’s capability to provide the required quality of the delivered resources and a copy of its QMS certificate the purchasing subdivisions of the plant take a decision about buying trial lots of the resources or the candidate’s participation in the tender.

6.6 After the supplier is assessed and rated in accordance with Section 8 (Approved Suppliers Bulletin), the purchasing services take a decision regarding the supplier’s inclusion in the List of Approved Suppliers and further actions according to item 6.2.2 and 6.2.3.

7 SUPPLIES AND MONITORING OF SUPPLIES

7.1 For the fulfillment of the accepted orders from the purchasing subdivisions of RUE “BMZ”, agreements (contracts) for the delivery of the required resources are signed with the approved suppliers and monitoring of the contract fulfillment is carried out as well as further work for the development of the mutually advantageous cooperation with the suppliers including supplier audits.

7.2 Agreement (contract) for the delivery of the resources is executed in accordance with the existing law and includes:

– terms of delivery;

– reference to the TNLA for the resource bought (standard, technical requirements, specification, etc.) indicating its specific characteristics (class, quality, grade, size, test methods, acceptance rules, etc.);

– marking and other information.

Note – a supplier should take into consideration the corresponding state norms and standards if there is a reference to them in the agreements (contracts) and drawings.

7.2.1 A purchase agreement (contract) includes an item about supplier acquaintance with RUE “BMZ” РКП.

7.2.2 The contracts signed by the subdivisions purchasing the main types of raw materials and auxiliary materials also include an item obliging the supplier to inform RUE “BMZ” about changes introduced in the production process which can influence the quality of the products bought**.**

7.2.3 Contracts for purchasing of raw material and auxiliary materials subject to the incoming inspection at RUE “BMZ” include the requirements of including the information about the quality of the supplier’s shipping documentation (invoices, bills of lading) subject to the agreement of the supplier.

Note – Number of the material quality certificates delivered should be in compliance with the number of the items in the bill of lading and the number of the items of this material in the invoice.

7.2.4 RUE “BMZ” purchasing subdivision can include changes in the agreement concerted with the supplier taking into consideration the requirements of the plant and capabilities of the supplier in the form of an amendment agreement.

7.2.5 A purchasing contract for the delivery of imported resources is executed in Russian and English.

7.3 Suppliers are fully responsible for the quality of the delivered product and should guarantee that all articles supplied to RUE “BMZ” are in conformity with the purchasing agreement (contract) requirements.

7.4 If a supplier delivers RUE “BMZ” resources including raw materials and accessories which are not produced by it, bears responsibility for the fulfillment of the requirements of this document by the producing company.

7.5 The supplier delivers goods in accordance with the agreement signed. Terms of shipment should correspond to the terms agreed in the delivery contract (agreement). If any change of the delivery contract can result in failure to fulfill terms of delivery, the supplier should immediately notify RUE “BMZ” about it.

Note – A supplier should not deliver RUE “BMZ” the material in excess without prior agreement of the corresponding purchasing subdivisions of the plant.

7.6 Each delivery should be accompanied by prior notification of the corresponding purchasing service of the plant. Any deviation from this requirement is allowed subject to the agreement of the purchasing subdivision which signed the agreement.

Delivery is carried out by lots. A lot is an amount of resources produced during a certain period of time. For the continuous production process the size of a lot should not exceed 24-hour production period. For the equipment delivered, the size of a lot should be indicated in the delivery contract (agreement).

Note – So as to provide maximum uniformity of the material supplied to RUE “BMZ, a supplier should minimize the number of different lots of one and the same material and dispatch only one product lot, if possible.

7.7 A supplier should identify the supplied resources giving the required information on the package and in the shipment documentation (quality certificate, packing list, etc).

Each lot shipped to the plant should have corresponding marking of each type of package. Each separate piece should also have marking.

Lot identification by the supplier should provide backward traceability aimed at finding the reason for non-conformities, if any, detected during processing at RUE “BMZ”.

Backward traceability includes:

– check of shipment documentation for the lot of resources delivered;

– acceptance and attestation records of the shipment by the supplier’s Technical Control Department;

– records of the process operative control data and conformity of the measuring devices and test equipment to the requirements of local, state and national standards;

– incoming inspection records regarding the resources delivered to the supplier, etc.

7.8 A supplier should attach a quality certificate to the lot of resources shipped.

The certificates should be executed and signed by a representative of the inspection subdivision independent from the production.

7.9 A supplier should send a material safety data sheet together with the product shipment according to the requirements of GOST 30333 and a description of special obligatory safety measures which should be taken when working with this material. Besides, dangerous resources should be labeled in accordance with the established requirements.

Safety tags and labels should warn about possible danger when using the resources with the following words: “Poison, “Toxic”, “Harmful for health”, Flammable”, “Explosive”, etc.

7.10 Dangerous goods can be transported and used at the plant according to the corresponding labels and safety certificates subject to all adequate precautions taken by the supplier including reliability of the technical safety equipment and packing.

7.11 The delivered goods are accepted on the basis of the supplier’s test results given in the shipment documents and are submitted to incoming inspection by the external acceptance Technical Control Department.

7.12 Based on the results of the supplier’s monitoring of fulfillment of the contract obligations by the purchasing services of the plant and incoming quality inspection of the delivered goods the assessment of the supplier is made according to Section 8.

7.13 If low quality goods are delivered or if the contract is disrupted or if the supplier is not loyal towards the plant, such supplier is excluded from “The List of Approved Suppliers” and is included in “The Registry of Unfair Suppliers. Such supplier stays in the Registry for the period of 2 years since the inclusion date. The supplier is not allowed to participate in the purchasing procedure of RUE “BMZ” within this period.

8 SUPPLIER ASSESSMENT SFTER THE DELIVERY

8.1 Supplier assessment is carried out on the basis of the analysis of the data received during interaction with it.

8.2 So as to be approved, a new supplier should deliver a trial sample or trial lot of the material to be tested and assessed at the plant. Besides, supplier's QMS should be certified.

8.3 New product suppliers are included in "The List of Approved Suppliers" after one year of deliveries subject to positive results of the processing of trial samples or trial lots.

8.4 After the product delivery to the plant monitoring of the supplier and updating of its rating in RUE "BMZ" List of Approved Suppliers is carried out.

Those suppliers which are included in RUE "BMZ" List of Approved Suppliers should ensure deliveries in accordance with the agreements (contracts) signed. Confirmation of the purchased material correspondence with the set requirements is done with the Technical Control Department incoming inspection at RUE "BMZ".

8.5 Suppliers are assessed by the heads of the purchasing subdivisions of and external inspection Technical Control Department by the following criteria:

– product conformity with the established requirements of TNLA or another SD indicated in the agreement with the calculation of IQL (quality index) of the delivered product which considers availability of the quality system of the supplier and portion of the deliveries with product deviations in the total amount of the deliveries taking into account the significance of the deviation;

– fulfillment of the volume and term of the product delivery (delivery logistics);

– degree of the supplier's loyalty and fulfillment of corrective actions.

Note – Suppliers are recommended to carry out self-assessment based on the given criteria. RUE "BMZ" does not supply calculation of indices. The supplier is informed about the given rating.

8.5.1 Supplier rating is determined based on the results of the assessment and calculation of the above indices:

Supplier rating	*IQL index (%)*	*Delivery logistics (DL)*	*Loyalty to the plant (L)*	*Measures*
Excellent supplier (О)	95,1 – 100	100%	100%	
Reliable supplier (Н)	75,1 – 95,0	100%	100%	
Acceptable supplier (П)	30,1 – 75,0	85-100%	80-100%	Corrective actions required
Unsatisfactory supplier (НЕТ)	IQL ≤ 30	Less than 85%	Less than 80%	Termination of purchases
Note: If one of the criteria has a deviation from the standard requirement, the value of IQL index of the delivered goods prevails.				

8.5.2 A Supplier Assessment Bulletin is issued at the end of a half-year and every year based on the work results. This Bulletin includes supplier ratings by groups of certain materials delivered to RUE “BMZ”.

See the content of The Supplier Assessment Bulletin in Supplement B.

8.5.2.1 The Supplier Assessment Bulletin is drawn up by the TC Dpt. together with RMS Dpt., MTS Dpt., EP Dpt. and contains the following information:

– figures related to the quality and quantity of supplies and IQL;

– availability of QMS certificate, fulfillment of the terms and volumes of delivery (DL);

– loyalty (L), corrective actions, rating.

The Bulletin allows RMS Dpt., MTS Dpt., EP Dpt. to monitor the supplies for further work with the suppliers directed towards improvement of quality of the delivered goods.

8.5.2.2 The Supplier Assessment Bulletin is signed by the heads of RMS Dpt., MTS Dpt., EP Dpt., is approved by the deputy general director for technology and quality and deputy general director for commercial issues. The original document is kept at the TC Dpt., copies are sent to RMS Dpt., MTS Dpt. and EP Dpt.

8.6 Statistical analysis of supplies

8.6.1 So as to prevent non-conformities and take corrective actions, a statistical analysis of deliveries is carried out.

8.6.2 At the beginning of each year The Lists of the Main Types of Raw Materials and Auxiliary Materials for Statistical Processing Based on the Incoming Inspection Data are issued for steel making and hardware production (Supplement Г).

The Lists are signed by the heads of TC Dpt., RMS Dpt., MTS Dpt., Steelmaking Shop 1, Steelmaking Shop 2, Steel Wire Shop 1, Steel Wire Shop 2 and are approved by the deputy general director for technology and quality.

If required, at the end of a half-year the Lists can be amended.

8.6.3 A statistical report is formed based on the results of the half-year and year (the period required for acquisition of statistical data). Statistical report form is given in Supplement Д.

8.6.4 The statistical report together with the graphs of the measured values of the controlled parameters of the materials are sent by the TC Dpt. to the purchasing services (RMS Dpt., MTS Dpt.) to inform the corresponding suppliers so as to prevent non-conformities and take corrective actions.

8.7 Calculation of the quality index of the delivered goods (IQL)

8.7.1 Initial number of points given to a supplier: 100

– if there are no deviations of the product supply quality and the supplier has QMS certificate confirming its correspondence to the requirements of ISO 9001, then IQL is equal to 100%;

– if the supplier has no QMS certificate confirming its correspondence to the requirements of ISO 9001, then IQL goes down by 5%;

– if non-conformities and quality deviations are detected, IQL is reduced depending on the significance of the problem and is calculated according to item 8.7.2 and 8.7.3.

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8.7.2 IQL calculation considering significance of the problem

Quality problems are detected during:

– acceptance and incoming inspection of raw materials, auxiliary materials, parts and accessories;

– use in the production process.

Quality index of the delivered goods (IQL) is calculated with the formula:

$$IQL = \frac{N}{N+\sum Ni \times K} \times 100\%$$

where: N – total number of supplies,

Ni – overall number of supplies with deviations from SD requirements,

K – significance coefficient.

K = 0,5	Non-conforming quality of the package, marking, appearance as delivered without further influence on the production process
K = 1	Non-conforming quality of the package, marking, appearance as delivered influencing further processing in the production process
K = 5	Insignificant deviations of the controlled parameters from the ND requirements and possibility to use this lot in the production
K = 10	Significant problems appearing during operation; return of the shipment or its partial replacement; repeated claims related to one and the same defect; hidden defects

8.7.3 IQL is calculated with the help of QM SAP module program.

8.8 Determination of the supply logistics

Determination of the supply logistics (SL) is made with the formula:

$$SL = \frac{O - C}{O} \times 100\%$$

where: O – total number of supplies;

C – number of late supplies; shows the percentage of timely deliveries in the total number of supplies.

Example: $SL = \frac{21-3}{21} \times 100\ \% = 85{,}7\%$, т.е. 86%

Note – Supply logistics (SL) is calculated in integer numbers.

8.9 Determination of the supplier loyalty

Loyalty of a supplier (L) is determined by the purchasing services with the formula:

$$L = \frac{FK}{PZ} \times 100\%$$

where: FK – actual number of corrective actions developed by the supplier;

PZ – number of proposals and requests regarding improvement of the activity sent to the supplier from the customer and determines the percentage of the supplier's fulfillment of proposals regarding supply quality improvement.

Note – Supplier loyalty (L) is calculated in integer numbers.

8.10 Acknowledged suppliers can be transferred to another rating category or excluded from RUE "BMZ" List of Approved Suppliers depending on the quality of the supplied resources.

If the work of a supplier is considered unsatisfactory, the supplier is transferred to the "unsatisfactory" category and can be asked to reimburse all expenses till the reason of non-conformity is eliminated or the plant can refuse to work with this supplier.

8.11 If suppliers meet the requirements of a stable production process and conformity of the characteristics of the resources quality, such suppliers can be transferred the "excellent" category.

Besides, any characteristic deviation requiring certain elimination and prevention measures are registered. Number of claims directed to every supplier is controlled by the TC Dpt. of the plant.

9 MANAGEMENT OF NON-CONFORMITIES

9.1 A supplier should ensure fulfillment of all quality requirements of the supplied resources including packing, marking and transportation requirements.

9.2 The resources which do not meet the agreement (contract) requirements are considered non-conforming and should not be received by the plant.

If nevertheless non-conforming material arrives at RUE “BMZ”, it is returned at the supplier’s expense.

9.3 If the supplier states that it had shipped non-conforming material, it should immediately notify the corresponding purchasing subdivision of the plant to take a required decision.

9.4 If a non-conformity is detected during incoming inspection of the product according to GOST 24297, TC Dpt. of the plant informs the corresponding purchasing service which notifies the supplier about this non-conformity.

TCD is authorized to take a decision regarding the increased number of tests and the corresponding purchasing subdivision has the right to change the qualification rating of the supplier.

9.5 Extra expenses of the plant related with the delivery of non-conforming resources are attributed to the supplier.

9.6 It is obligatory for a Supplier to implement a notice according to 8D form (Appendix L) during 30 days from the receipt date as for the revealed quality non-conformities and send it to the responsible executor of RUE “BMZ”. A Suppler is responsible for development of measures referred to assure quality of produced goods (services) and resources supplied to the plant**. (Changed edition, Amendment No. 1)**

9.7 If the supplier receives a non-conformity notification from the plant, it should immediately make adjustments and develop corrective actions according to the requirements of ISO 9001 and notify the corresponding purchasing service of RUE “BMZ” about it.

9.8 A Supplier that got claims from the plant should inform RUE “BMZ” as for its receipt and implement a notice according to form 8D (Appendix L) to the responsible executor of RUE “BMZ” during 30 days.

9.9 A Supplier that got claim from the plant and does a serious damage to it is moved to the group of unsatisfactory suppliers. A Supplier can be in this group temporarily till the reason of claim is determined, than the objective arguments should be given (during 30 days from notification receipt date it is obligatory to implement a report according to form 8D, Appendix L). Otherwise it will be excluded from the list of approved suppliers. The claim report is send to Supplier with the request of corrective actions that should be taken.

9.8-9.9 (Changed edition, Amendment No. 1)

10 CONTINUOUS IMPROVEMENT

10.1 Continuous improvement is one of the most important conditions for further successful cooperation with RUE “BMZ”.

A supplier should continuously improve QMS and quality of the delivered product. It is recommended to follow ISO 9004 for this purpose.

10.2 Every year RUE “BMZ” together with its suppliers determine joint technical targets which are worked out by the purchasing services, are checked by the deputy general director for commercial issues and are approved by the deputy general director for technology and quality (Supplement E).

10.3 A supplier should develop management plans for its production to evaluate the quality of raw materials, auxiliary materials, parts/spare parts, accessories, equipment, production processes, finished products, packing, preservation, shipment and storage. Management plans should contain precise description of the controlled parameters, methods of process management of the whole production cycle. Besides, they should include sufficiently detailed information about all aspects and critical parameters of the products which will help a more precise and complete analysis of the plans when checked.

All work done to repair discards, sorting and utilization of wastes should be documented and should be available for analysis.

10.4 When continuously improving, it is recommended to use statistical methods.

Use of statistical methods should help to prevent non-conformities. Statistical methods are used for process and product assessment and should be directed towards continuous improvement of the supplier’s QMS and Based on the results of the assessment and calculation of the above indices Based on the results of the assessment and calculation of the above indices of quality of the manufactured product.

10.4.1 A supplier should determine special product characteristics, special process parameters and methods of statistical control so as to decrease the variety of indices at all stages of the production process. Frequency of finished product testing should be based on the statistical analysis.

Process management methods are determined at the stage of quality planning and should be included in the management plans.

10.4.2 Test results of random samples and process control charts should confirm correspondence of this material to the requirements demanded. Besides, it is important for the personnel to understand the importance of processes variability and methods of statistical control.

10.5 Improvement is also implemented due to development and introduction of corrective and preventive actions.

11 SUPPLIER AUDIT

11.1 For development of partnership relations and improvement of quality of the delivered products the purchasing services together with the technical services of the plant and QMD organize supplier audits.

11.2 Supplier audits are planned by the senior logistics specialist in cooperation with the heads of RMS Dpt., MTS Dpt. and EP Dpt. in January current year in the form of schedules.

Supplier audit schedules are checked by the deputy general director for technology and quality and approved by the general director of the plant. Copies of the schedules are sent to Quality Assurance Dpt. by the purchasing services.

Planning is based on Supplier Assessment Bulletin for the previous period.

11.3 Supplier audits are carried out by specialists of RMS Dpt., MTS Dpt., EP Dpt., Quality Assurance Dpt. according to the schedule and by representatives of the T Board and user shops, if required.

An Audit includes inspection of the technology of product manufacturing, product shipment procedure, efficiency of QMS functioning, improvement activity, fulfillment of the joint technical targets.

Fulfillment of corrective and preventive actions aimed at improvement of quality of the supplied products and development of partnership relations is checked without fail.

11.4 Based on the supplier audit results specialists of RMS Dpt., MTS Dpt., EP Dpt. and other subdivisions issue a supplier audit report with the conclusion regarding conformity of fulfillment of contractual obligations and recommendations for operation improvement as well as for analysis and assessment of the supplier.

11.4.1 RMS Dpt., MTS Dpt., EP Dpt. send the audit report with a cover letter containing recommendations for the operation improvement for the supplier to take corresponding measures (or refuse further cooperation).

11.4.2 The supplier audit report is signed by the auditors, head of the corresponding purchasing service, head of Quality Assurance Dpt., checked by the Deputy General Director for Technology and Quality and approved by the Deputy General Director on Commerce.

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LIST OF APPROVALS

A.A. Sotnikov, Deputy General Director for Technical Development – Chief Engineer

I.A. Chernyavsky, Deputy General Director for steel Cord and Wire Production

A.V. Korolyov, head of MTS Dpt.

H.V. Melchakov, head of RMS Dpt.

V.V. Lysyuk, head of EP Dpt.

V.V. Kasyukov, head of ES Dpt.

A.I. Pankovets, head of E&ISP Dpt.

I.N. Zhuk, head of LP Dpt.

I.G. Lutsai, head of QA Dpt.

SUPPLEMENT

Supplement A

RUE “BMZ” code of ethics

Republican Unitary Enterprise “Byelorussian Steel Works” is an export-oriented and socially responsible enterprise doing business in accordance with the ten principles of the UN Global Compact. The plant arranges its relations with customers, suppliers, state and social organizations and other parties concerned on the basis of the rules of behaviour worked out by the world society considering universal values and understanding that the plant’s image and success to a great extent depend not only on observation of the law requirements but also ethic norms.

Basic ethic principles are as follows:

1. Business is based on confidence and respect as the basis of constructive interrelation and assistance aimed at gaining of mutual benefit.
2. The amount of responsibility of each business party corresponds to the amount of the rights entitled to the same.
3. Parties exchange experience and information within the scope of their competence, help each other in solving tasks to achieve a better result.
4. Business parties aim at minimization of expenses and environment impact that may arise in the course of joint business.
5. Business partners fulfil contractual obligations sequentially and in good faith, and carry out corporate management openly and responsibly.
6. All disputes and controversies arising between business parties should be resolved amicably by negotiations trying to find mutually acceptable compromise.
7. All commercial and technical information and operational data received during business relations are confidential and should not be advised to third parties without a business partner’s consent.
8. The enterprise contributes to social stability and development of the region in the area of construction of educational, medical, sport establishments, cultural centres, development of infrastructure, beautification of the town, takes care of environment, health of the personnel and labour safety, timely pays taxes and salaries.
9. Professionalism and improvement are conditions for successful fulfillment of obligations to the parties concerned.
10. Polite and proper relations.
11. Initiative and responsibility are means of providing development and competiveness of the enterprise.
12. Interest in and readiness to decide issues.
13. Punctuality, precise and timely fulfillment of the obligations undertaken.
14. Efficient use of own working time and the time of the parties concerned.

Supplement Б
(obligatory)

Supplier's informational questionnaire

Supplying enterprise _____
Producing enterprise _____
Product supplied _____

I. Management system of the producing enterprise

Question	Yes (+)	No (-)	Additional information
1 Does the producing enterprise carry out assessment of raw material and materials supplier?			
2 Is the incoming inspection of the supplied raw material and materials carried out?			
3 Is product quality controlled within the whole chain of the production process?			
4 Does the existing count and marking system provide identification and traceability of the process and the product?			
5 Are product acceptance tests carried out by the structural subdivisions which activity is independent from the production (for example, TC Dpt. or a quality group)?			
6 Are product test methods attested?			
7 Is product testing laboratory accredited?			
8 Is finished product attestation carried out by the structural subdivisions which activity is independent from the production (for example, TC Dpt. or a quality group)?			
9 Is metrological laboratory of the producing enterprise accredited?			
10 Is the supplied product certified in accordance with national or international normative documents (GOST, technical requirements, etc)?			
11 Is the system of analysis of product, raw materials and materials supply contracts (agreements) functioning at the producing enterprise?			
12 Does the system of count and analysis of the supplier remarks and claims functioning at the producing enterprise?			
13 Is regular analysis of quality and environment work carried out at the producing enterprise?			
14 Does the system of training and attestation of the personnel including quality and environment issues functioning at the producing enterprise?			
15 Is management system based on ISO 9001:2008 introduced at the producing enterprise?			
16 Is the quality management system of the producing enterprise certified according to the requirements of ISO 9001:2008 or its national version, if yes, then by whom and when? Please, attach a copy of the certificate			

II. Certification of the management system of supplying enterprise according to ISO 14001, OHSAS 18001, SA 8000.

Name the existing certificates: _____

At your enterprise		
	Used	Not used
– child labour		
– forced labour		
– corporal punishments,		
– psychological or physical violence		
– people discrimination		
– standard working week does not exceed 48 hours		

III. Development of mutually advantageous relations with suppliers (for phase 2 and 3)

Index	Degree of importanceи*					Degree of satisfaction*				
Terms of settlement	5	4	3	2	1	5	4	3	2	1
Volume of delivery	5	4	3	2	1	5	4	3	2	1
Responsiveness and mutual understanding during contract signing	5	4	3	2	1	5	4	3	2	1
Responsiveness and mutual understanding during contract fulfillment	5	4	3	2	1	5	4	3	2	1
Objective self-assessment of the delivered product quality	5	4	3	2	1	5	4	3	2	1

Please, encircle the figures corresponding to your mark.

Number of points in figures mean:

By the degree of importance		By the degree of satisfaction	
5 points –	extremely important	5 points –	complete satisfaction
4 points –	important	4 points –	satisfaction
3 points –	partially important	3 points –	partial satisfaction
2 points –	not important	2 points –	dissatisfaction
1 point –	absolutely unimportant	1 point –	absolute dissatisfaction

IV. Your proposals regarding improvement of the indices included or not included in the questionnaire:

Thank you for filling up the questionnaire.

Enterprise: _____

Filled by: _____

Position: _____

Address and telephone number: _____

V. Date of the questionnaire return.

RUE “BMZ” supervisor (Name, signature)

Supplement B
(obligatory)

Content of the supplier assessment bulletin

Material	Supplier, producer	QMS certificate availability	Order	Number of lots without deviations	Number of lots with diviations			General criteria			IQL, %	Rating	
					Non-conforming quality of packing, marking, appearance	Partial non-conformity	Return to the supplier	Hidden defects in the production process	Availability of the supplier's corrective actions	Loyalty, %		1 half-year	year

О – excellent supplier;
Н – reliable supplier;
П – acceptable supplier;
НЕТ – unsatisfactory supplier.

Supplement Г
(obligatory)

LIST
of the main types of raw materials and auxiliary materials for steel production (steel cord and wire production)
for statistical processing based on the incoming inspection data

Name of the material	Controlled parameters

Supplement Д
(obligatory)

STATISTICAL REPORT

Supplier:
Time period:
Material:

Total number of supplies:
Number of supplies with ND breach:
Number of returned supplies:
IQL:

Material characteristic name	Limit values	Number of analysis	Minimum	Maximum	Average	Standard deviation

Supplement E
(reference)

CHECKED BY:
Deputy general Director
on Commerce
_____ Name.

_____
Date

APPROVED BY:
Deputy General Director for Technology and Quality
_____ Name

_____
Date

JOINT TECHNICAL TARGETS
WITH SCRAP SUPPLIERS
FOR _____(year)

TARGETS

Head of the purchasing service _____ Name

(Changed edition, Amendment No. 1)

Supplement Ж

LIST OF USERS OF QMS

Position	*Number*
General Director	1
Deputy General Director for Technical Development – Chief Engineer	2
Deputy General Director for Technology and Quality	3
Deputy General Director on Foreign Economic Relations and Salesas	4
Deputy General Director on Steel Cord and Wire Production	5
Deputy General Director for Commerce	6
Chief specialist on Steelmelting production	7
Chief specialist on Rolling Mill production	8
Head of Material-Technical Supply Department	9
Head of Head of Raw Material Supply Department	10
Head of Equipment Purchasing Department	11
Head of Organization of Maintenance and Technical Diagnostics Board	12
Head of Technical Board	13
Head of Central Laboratory	14
Head of Technical Control Department	15
Head of Quality Assurance Department	16
Head of Stock Houses	17

Paper copy of the document is not updated

Annex L of RKP 840 – KSM-03-2011

REPUBLICAN UNITARY ENTERPRISE
«BYELORUSSIAN STEEL WORKS»

APPROVED BY
General Director
A.N. Savianok
24.12.2011

CORPORATE MANAGEMENT SYSTEM

"8 disciplines" (8D)
Methodology of analysis and reporting
(systemic problem exclusion)

M OUK 840-KSM-2-2011

Developed by:
QCD head
I.G. Lutsai
25.112011

ZHLOBIN
2011

1 STANDARD CONTENT AND REVISIONS

Section	Rev. No. 1 Date	Rev. No. 2 Date	Rev. No. 3 Date	Rev. No. 4 Date	Rev. No. 5 Date
Cover page 1 Standard content and revisions 2 Generalities and scope of application 3 Definitions and abbreviations 4 Stages of 8D methodology implementation 5 Description 6 Report instruction 7 List of approvals 8 Annex A					

2 GENERALITIES AND SCOPE OF APPLICATION

2.1 This methodology regulates the procedure of execution of corrective actions aimed at elimination of non-conformity causes and is used by RUE “BMZ” suppliers if deviations from the raw materials (auxiliary materials) requirements are detected.

2.2 8D methodology represents eight stages (disciplines) which structure the work of a problem cause detection and elimination.

2.3 Aim of 8D process is not only to resolve a problem but to exclude recurrence of its cause at present and in future.

2.4 Eight disciplines methodology (8D) can be used in the following cases:

– availability of a problem (defect) the cause of which is uncertain;

– customer’s requirements;

– production requirements (quantitative measurements of the outcome show that there exist deviations of the results and/or the significance of the effect (criticality, urgency, growth) substantiates 8D process initiation);

– symptom complicacy (see Section 3) exceeds the possibility of one man to solve the problem.

2.5 The result of the analysis held according to 8D methodology – a report, a report form are given in Section 6.

3 Definitions and abbreviations

Validation – confirmation by way of providing of objective evidence of meeting the requirements intended for a certain supposed use or application. Evidence after introduction (after some time period) and after receipt and analysis of the data evidencing that the work was fulfilled according to the plan and no new problems occurred (or old repeated).

Verification – confirmation by way of providing of objective evidences that the set requirements were met. Evidence before introduction that the work is fulfilled according to the plan.

Primary reason – the only confirmed cause of the problem.

Corrective action – an action taken to eliminate the non-conformity detected or another unwanted situation.

Indication – quantitative determination of an event or effect indicating existence of a problem.

Escape point (EP) – the earliest point of a process where non-conformity should have been noticed.

FMEA – analytical method of analysis of types and outcomes of potential failures.

4 STAGES OF 8D METHODOLOGY IMPLEMENTATION

4.1 Each step of the methodology has the letter ”D” in its name which means “discipline”.

4.2 8D methodology includes the following steps (disciplines):

D0 – Preparation for 8D analysis
D1 – Establishment of a team
D2 – Detailed problem description
D3 – Development of an interim containment action (temporary measures)
D4 – Determination and check of the root (basic) cause and the escape point (EP)
D5 – Selection and check of permanent corrective actions
D6 – Implementation and validation of permanent corrective actions
D7 – Selection of preventive measures
D8 – Recognition of the collective and individual contribution, 8D closure

5 DESCRIPTION

5.1 Tasks solved at each stage of 8D analysis implementation.

5.1.1 **D0 (preparation)** – assessment of the requirement for 8D methodology use. Immediate response is taken to protect a customer, if required:

–100% product inspection;

–finished product lot is retained in a “quarantine”;

–notification of a customer of possible defective products;

–production process verification.

8D use is required if:

–a problem with a new type of product occurs;

–a problem related to an external user occurs;

–a customer requires to perform 8D.

5.1.2 **D1 (establishment of a team)** – a team is set up of those specialists who know the process, have time available, have authority and skill in the required process disciplines (representatives of different departments, 3-5 persons).

5.1.3 **D2 detailed description of an internal/external problem** (symptoms). Standard description includes three elements:

– object (product, component, situation);

– subject (defect or problem);

– number (number of defective products, components).

The following should be indicated as well:

– customer;

– list of documents required for problem solving (instructions, in-process control data, adjustment data);

– missing information;

– information acquisition plan.

5.1.3.1 Different methods are used: 5 W’s, FTA (fault tree), brainstorm, etc. Aim of these techniques is to determine in detail those production conditions in which the problem occurs as well as all quantitative (degree of deviation from the standard, number of pieces) and temporary characteristics of the problem (time, frequency, within what time period the problem appears).

5.1.4 **D3 (determination of temporary measures)** – the team determines, checks, performs, confirms the effectiveness and develops measures for interim containment (temporary measures) till permanent corrective actions are taken.

5.1.4.1 The problem is isolated from all internal/external users.

5.1.4.2 D3 stage:

– check if all defective products are detected; if so, they are segregated from good ones;

– additional control;

– development of temporary instructions;

– production process re-inspection;

– check of sufficiency of the measures undertaken.

5.1.4.3 Quickness of a decision making as well as verification of the efficiency of the measures undertaken is very important for this step.

5.1.5 D4 (determination of the root (basic) cause and the escape point (EP)). At this stage the root (basic) cause is checked, every possible problem is tested against the problem description and test data. The team segregates and checks the process point where the root problem should have been detected and contained but it did not happened:

Typical questions:

– Were the equipment or tools replaced (changed) or maintained?

– Was the production process modified?

– Were the materials used in production replaced (changed);

– Were the personnel involved in the production process changed?

It is quite possible that there will be not one cause but a number of them. Besides, the cause may have been found out at D2 stage. If so and in case there are validation data available proving the correctness of the opinion, you may skip to EP (Escape point). As was mentioned above, EP is the closest point in the process where non-conformity should be noticed. What does it give us from the viewpoint of struggle for quality? Control Plan of this product should be revised and this point should be included in it. Corresponding modifications should be included in the control plan, FMEA, process flow chart, technological process, inspector/operator/adjuster job instruction, etc., all corresponding product documentation in accordance with the rules of the supplier procedure.

5.1.6 **D5 (development of permanent corrective actions)** – selection of the best permanent (long-term) corrective action to eliminate the root cause and to refer to the escape point (EP) and to verify it. The team checks, if the measures undertaken will be successful and won't create unwanted effect.

If previous steps were correct, then during determination of the actions it is necessary to clearly determine the responsible, time of performance and work stages.

Corrective measures are determined for the production process and for the quality system.

5.1.7 **D6 (introduction and validation of the selected long-term corrective actions)** - interim containment is stopped; the team validates the actions, supervises and analyzes long-term results during the whole work stage.

D6 stage:

– responsibility and authority for introduction are determined;

– corrective action introduction plan is worked out, time of performance, responsible people and resources are indicated;

– modifications in the process and the system are agreed;

– risks of corrective action introduction is assessed (selection of a wrong methodology, frustrated time of performance, etc);

– training is carried out;

– the existing documentation is improved or new documentation is developed.

5.1.7 If you don't have clear proof of a problem resolving, you haven't solved it.

5.1.8 **D7 (selection of actions to prevent recurrence)** – So as to prevent occurrence of similar problems, the required systems, policies, procedures and skills are modified. Recommendations for systemic improvement are worked out, if required.

5.1.8.1 D7 stage:

– changes required to be introduced in such processes and the system so as to prevent similar non-conformities in future are determined;

– modifications in documentation/processes (PK, procedures, control plans, FMEA, PPAP, etc.) are introduced;

– data to be saved for future (FMEA, control plans) are determined.

5.1.8.2 Aim of the discipline is to change the system in which a non-conformity originated. The main task of preventive action development is determination of measures applied to similar processes so as to prevent similar non-conformities.

5.1.9 **D8 (8D closure, team congratulation)** – assessment of the effectiveness of 8D methodology by a group of specialists:

– determination of possible modifications in 8D methodology;

– appointment of people responsible for introduction of modifications in 8D methodology (if required);

– recognition of collective and individual contribution of team members.

6 REPORT INSTRUCTION

6.1 Report identification is carried out by a responsible specialist of the supplier when problem solving process is initiated and report execution begins in the following order: year – a successive number (example: 2011-01).

6.2 One 8D report is executed per one defect type of a certain claim.

6.3 All report fields should be filled in. When filling the fields it is necessary to pay attention to the remarks-hints (capital type).

6.4 If a corresponding report field cannot be applied to a certain situation, N/A should be written.

6.5 If the information does not fit the corresponding field (fields), it is possible to:
– decrease the case up to at least No.8;
– add additional lines into the report;
– use a detailed annex to the report referenced in the corresponding field; this annex is an integral part of the report.

6.6 Two types of executed reports are supplied to the user:
–an electronic version e-mailed to the responsible representative of the user);
–faxed or mailed copy (certified by a signature).

6.7 Documents evidencing fulfillment of one or another stage (acts, protocols, check lists, pictures, investigation results, etc.) should be attached to the report.

6.8 8D report should be sent latest 30 days from non-conformance notification date.

6.9 If the report is not accepted, then latest 5 working days further corrective/improvement actions and the date of the repeated report delivery should be discussed with the RUE “BMZ” responsible person (person in charge of the contract).

7 LIST OF APPROVALS

Deputy general director for technology and quality	A.A. Peratsiahina
TCD Head	I. L Kirylenka
RM Head	P.A. Babkou
PM Head	V.E. Ibrahimau
MS-1 Head	S.V. Kanavalenka
MS-2 Head	A.A. Buhrymau
SWS-1 Head	O.V. Abaramenka
SWS-2 Head	A.V. Zinavenka
SWS-3 Head	Khodasouski

8 ANNEXES

Annex A
(recommended form)

REPORT FORM (to be documented)

PROBLEM SOLVING REPORT - 8D (name of a supplier) dd. *8D initiation date*			
Report No.:	*Numbered by the supplier*	Product description: Lot / B/L No.	
Basis Ref. (document/date)	*Indicate number and date of the claim*	Customer: E- mail:	

D0 PREPARATION		
Question	Reply	
1. Reason for use:		
2. Are actions directed towards prevention of defective product delivery to the customer taken?	YES	NO
3. If YES, list the actions undertaken		

D1 TEAM FORMATION					
NAME	Department (shop)	Position	Responsibility	Tel./Fax	E- mail
1.			*8D group leader (head)*		
2.	*Quality*		*Coordination of the team activity and work with the customer*		
3.	*Production department*		*Acquisition and analysis of the production process data*		
4.	*Procurement department*		*Acquisition and analysis of the raw material used*		
5.	*Technical Board*		*Analysis of correspondence of the production process with the design data*		
6.	*Management*		*Work with the plant (firm) management*		

D2. DETAILED PROBLEM DESCRIPTION			
Defect recurrence	☐ 1st case ☐ 2nd case ☐ More than 2 cases	Defect investigation act(s) No.	
Customer (user):			
Normative document (GOST, TU, etc.)			
List of documents which can help in 8D implementation			
Missing information			
Missing information acquisition plan			
Control method (technology, SI, sampling amount, tolerances, etc.)			
Picture of the defect (if available)			

D3. TEMPORARY MEASURES DETERMINATION		
Temporary measure	D3 Time of performance	Responsible (shop, name, position)

D4. BASIC (ROOT) CAUSE
So as to determine the root cause of the defect, define the mechanism of its occurrence and use 5 W's, FTA – fault tree methods (see item 5.5)

D5 DEVELOPMENT OF CORRECTIVE ACTIONS (PERMANENT)	
Proposed solutions	Cause
1.	1. *Indicate ever rot cause separately*

D6 INTRODUCTION AND VALIDATION OF THE CORRECTIVE ACTIONS			
Permanent corrective actions	Evidencing document (validation)	Time of performance	Responsible (shop, name, position)
1.			
Method of action effectiveness assessment	Responsible for check (shop, name, position)	Check date	Conclusion on effectiveness
Indicate the method of assessment of effectiveness of the actions introduced. Example: "0" defects acc. to the results of 5000 parts acceptance, Cpk/Ppk>1,67, etc.			

D7 ACTIONS TO PREVENT RECURRENCE			
Change	Document No.	Responsible (shop, name, position)	Time of performance
Control plan, FMEA, process flow chart, production process, job description of an inspector/operator/adjuster, etc., measuring devices, etc..			
Cover the process/product		Project manager	Action plan No.
Description	No. of TU, process, etc..		

D8 Closure of 8D		
Was 8D effective? Yes/No (remarks)	Name (position, shop/department)	Closing date
	Заключение лидера (руководителя группы)	
Team congratulation. Members of the team (Name, position, shop)		

CEO:_____ _____ _____

Position Signature Name