

Change Orders: Mastering Amendment Orders in Industrial Procurement

A change order is a formally documented amendment to an order that has already been placed or is in progress, for example concerning scope, specification, delivery date or price. In industrial procurement and manufacturing, it is the key control instrument when requirements shift after order placement. Managing change orders in a structured way avoids additional costs, scheduling conflicts and disputes with suppliers. This article explains the definition, process, KPIs and practical tips relating to the amendment order.

Key facts

- A change order documents amendments to the scope, specification, delivery date or price of an existing order in a legally binding manner.
- The process typically follows the pattern of request, review, approval, implementation and should be firmly embedded in purchase order management.
- Changes frequently affect price, delivery date, tooling status, material disposition and contracts.
- In practice, change orders are particularly consequential in contract manufacturing and production orders with long lead times.
- Key KPIs are the number and value of change orders, decision time (cycle time) and cost and schedule variances.
- Without a clear delegation of authority and documentation, variation disputes and poor contract compliance arise.

Definition: change order

A change order (also known as an amendment order or variation order) is a mutually agreed, documented amendment to an existing purchase contract or supply order. It specifies what is being changed, its impact on price, delivery date and scope of services, and the date from which the change applies.

Distinction from other types of change

The change order is the execution instruction once approval has been granted. It is frequently preceded by a change request (request for a change) and an Engineering Change Order (ECO) for technical product changes. A blanket order or call-off order can also be adjusted via change orders, for example when call-off quantities or delivery dates shift.

Typical subjects of change

In manufacturing practice, amendment orders usually concern drawing revisions, bills of materials, material specifications, quantities, delivery dates or packaging and logistics requirements. In contract manufacturing (labour-only production), cycle times, inspection requirements and supplier approvals are added. Every change should be assigned a unique revision number.

Process and methods of the change management process

A functioning change order process is an integral part of purchase order management and product lifecycle management. It ensures that changes are reviewed, assessed and approved only with clear accountability.

Request, review and costing

The process begins with a formalised change request describing the reason, scope and requested date. The supplier reviews technical feasibility and assesses the impact on costs, set-up times, material procurement and parts already produced. In practice, purchasing provides, in return, a verification of the calculation and checks whether the change is commercially standard or a special service.

Approval with a clear delegation of authority

Approval is decided by a defined authority; this is where the delegation of authority applies, i.e. the binding rule governing who may sign up to which order value. Higher-value changes are frequently decided by an interdisciplinary panel of purchasing, engineering, quality and planning. The approval must be documented in order to rule out later variation disputes.

Implementation and post-calculation

After approval, the supplier updates the purchase order line, schedule and, where applicable, tooling status; the buyer adjusts the purchase order in the ERP system. A post-calculation after implementation is important: if final costs and the agreed price sheet diverge, this should be systematically analysed. Amendments to the framework contract relate to the topic of contract compliance.

KPIs for managing change orders

Change orders can be quantified and thus managed. The following metrics have proven themselves in practice and should be reviewed regularly in procurement.

Volume and process metrics

Key metrics are the number and order value of change orders per period, their share of total order volume, and the cycle time from request to approval. High change frequencies for certain suppliers or product groups indicate weaknesses in the specification or the requirements catalogue.

Impact metrics

Impact-oriented metrics are the cost impact (delta between the original and amended price), the schedule impact on delivery performance, and the proportion of changes commissioned retroactively. The quality of the recalculation can also be measured, for example via the variance between quotation and post-calculation.

Link to procurement metrics

Amendment orders indirectly affect inventory and delivery metrics: hesitant approvals increase inventories and worsen inventory coverage, i.e. days inventory outstanding (DIO). For delivery schedules with fixed time windows, the rule applies: the later the change, the more expensive it becomes.

Risks and controls for amendment orders

Uncontrolled change orders are one of the most common sources of additional costs in procurement. Risks can be significantly reduced through process rules, contract design and system support.

Typical risks

Common problems are verbally agreed changes without documentation, missing price adjustment clauses, duplicate or contradictory revision statuses, and changes shortly before the delivery date with significant consequences for material and tooling. The same applies to tenders with bidder questions and defined award criteria: whatever is changed after contract award typically becomes disproportionately more expensive.

Contractual controls

Contracts should govern rights and obligations in the event of changes: duties to cooperate, deadlines for agreeing prices, compensation for purchased raw materials or tooling, and a formal change procedure. For serial-like production with call-offs, a tiering into fixed and flexible time windows, as provided for in a delivery schedule agreement, is recommended.

Procedural controls

Effective measures include the obligation to provide written confirmation before work commences, blocking logic in the ERP (changes only with approval), version control of all technical documents, and regular reviews of open change orders. A clarification round before approval helps to resolve ambiguities regarding scope and price at an early stage. Duplicate structures can be avoided by maintaining a single source of truth for document statuses.

Current developments: digitalisation and sustainability requirements

Change orders are increasingly being mapped digitally and are subject to new regulatory and data-driven requirements along the supply chain.

Digital change workflows

Modern ERP and PLM systems link change requests with purchase orders, drawing revisions and bills of materials, so that change statuses no longer need to be synchronised manually. Procurement platforms add transparent communication histories to this. Relevant for catalogue buying: catalogue items with fixed attributes can only be amended via standardised change processes, which is checked by so-called catalogue compliance.

Data integration and transparency

Those who consolidate change data in a data lake or analytics environment identify patterns: which product groups change frequently, which suppliers are particularly affected, and which costs arise? These insights feed into the procurement strategy and sourcing decisions, for example when setting the dual-sourcing ratio as a hedge against change risks from a single source.

Regulatory implications

Changes to the origin, material composition or suppliers of components can trigger reporting obligations, for example in the context of CBAM for imported emission-intensive upstream products.

Similarly, in the reorder point procedure and in automated replenishment processes, a change of parameters (quantities, dates, parts) must be systematically mapped so that no outdated master data remains.

Change orders in tenders and procurement strategy

The handling of changes does not begin only after order placement, but already during preparation. Those who work cleanly here significantly reduce the number of subsequent change orders.

Change clauses already in the tender

In the tender, the requirements catalogue should be as complete as possible; open points are clarified via bidder questions. In addition, it is worthwhile to already include change mechanisms and prices for typical changes in the cover letter. This makes subsequent negotiations objectively verifiable.

Demand specification and demand notification

Many changes arise because the demand notification was imprecise or demand shifted in terms of quantities or dates. A robust specification, clear internal responsibilities and binding demand notifications reduce the pressure to change. The reorder point procedure can help here if quantities and dates are stable.

Typical metrics

Change order rate: in practice, frequently below 10 % of orders

Proportion of orders subject to change relative to total order volume; high values indicate specification weaknesses

Change order cycle time: typically 5–15 working days

From request to approval; shorter cycles mean less impact on delivery dates

Cost impact: case by case; as a trend, below 5 % of the order value

Delta between the original and the amended order value

Post-calculation variance: usually below 10 %

Variance between the agreed and the actual effort of the change

Practical example

A mid-sized mechanical engineering company manufactures components for special-purpose machinery as contract manufacturing. After order placement, engineering modifies two sheet-metal parts and postpones the production start by four weeks. Without a formal process, a dispute arises: the supplier has already ordered raw sheet metal and partially completed the tooling. With an established change order process, the case is resolved differently.

- Every change goes through a form with revision number, reason and requested date; verbal agreements are excluded.
- The supplier calculates within five working days; a clearly defined delegation of authority governs who may approve up to EUR 50,000.
- Raw materials already purchased are settled on the basis of a transparent itemisation; tooling costs are agreed pro rata.
- A monthly review of the number, value and cycle time of change orders demonstrably reduces the rate of change.

Conclusion

Change orders are not a sign of poor planning; in mechanical and plant engineering they are unavoidable. What matters is that changes are made formally, documented and with clear accountability. An established process reduces variation costs, protects delivery dates and sustainably improves collaboration with suppliers. Those who analyse change data also gain insights for specification quality and supplier selection. Procurement should therefore treat the change order process as an integral part of its purchase order management and continuously develop it further.

Frequently asked questions

What is a change order?

A change order is a documented, mutually agreed amendment to an existing order or contract. It specifies what is being changed and its impact on price, delivery date and scope of services. The change only becomes legally binding once both parties have approved it.

What is the difference between a change order and a change request?

The change request is the proposal for a change; the change order is the resulting, approved amendment to the order. The former initiates the review process, the latter is the instruction that governs execution. In technical contexts, the term Engineering Change Order (ECO) is also used.

How does the change order process work?

Typically in four steps: change request, review and costing by the supplier, formal approval by a defined authority, and implementation, including updating the purchase order and documentation. Clear deadlines, version control and a post-calculation upon completion are important.

Who is authorised to approve a change order?

This is governed by the company's delegation of authority: different approval levels depending on the order value. It is common practice to involve purchasing, engineering and quality for the technical review, plus a defined individual for the binding signature.

What does a change order cost?

This depends on the individual case and on the timing of the change: the closer to the delivery date, the more expensive it typically becomes, because material, tooling or production start-up are already under way. A transparent supplier calculation, itemising costs already incurred and costs still avoidable, is considered fair.

How many change orders are normal?

There is no universally valid figure; the proportion of orders subject to change varies considerably by industry. New product launches and special-purpose machinery show significantly higher rates in practice than serial parts with stable specifications. What matters is the trend: rising figures indicate weaknesses in demand specification.