

CNC Supplier Qualification

An Evidence-Led Audit Guide

Choose a capable route.

Verify the evidence. Define the approval.



VERIFY THE FIT

START HERE

Choose evidence before confidence

A practical buyer-side guide for engineers, procurement teams and supplier-quality reviewers.

The useful question is not whether a factory looks impressive. It is whether the proposed supplier, manufacturing site and process route can meet the requirements of your part, at your volume, with evidence you can use. This guide turns that question into an orderly review, an auditable decision and a controlled first order.

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Use the case, not its numbers as a standard

IH-80, Candidates A/B/C, quotations, records and outcomes are fictional teaching examples. They are not real supplier rankings, customer records or VetCNC performance claims. Replace the original weights, gates, tolerances and sample sizes with your project requirements. No institution named in the reference register endorses the case or the brand.

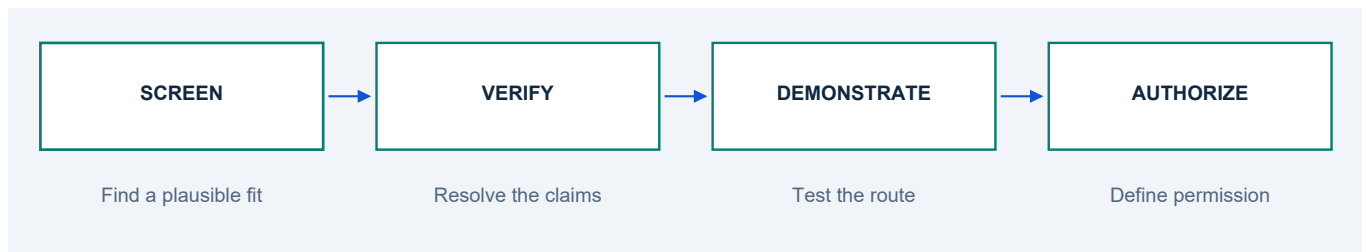
WHAT THIS GUIDE DOES NOT DO

It does not certify a supplier, establish regulatory compliance, replace a licensed standard or make your final engineering decision. It supplies questions, evidence patterns, worked calculations and forms. Apply the full contractually required schemes and obtain qualified review for high-consequence applications.

01 / DECISION ARCHITECTURE

Qualify a route for a defined job

A company-level impression is not the same as authorization to make a particular part.



Start with the part and its failure consequences. Then identify the legal supplier, manufacturing address, machining route, outside processes and inspection route that will fulfill the order. Approval should connect these items rather than sit beside them as a generic green status in a vendor database.

Decision stage	Question	Useful output
Screen	Is there a plausible match and a legitimate, identifiable route?	Shortlist with explicit gaps.
Verify	Do claims have relevant, current support?	Evidence register and audit findings.
Demonstrate	Can the proposed route produce the required part?	Agreed trial records and dispositions.
Authorize	Exactly what may be ordered, where and under which controls?	Bounded approval and review triggers.

A supplier may be strong in simple aluminum plates yet unproven for a thin-walled stainless housing. A second site may use different equipment or subcontractors. An excellent prototype may depend on individual hand fitting that is not present in the repeat route. Preserve these distinctions in the final approval.

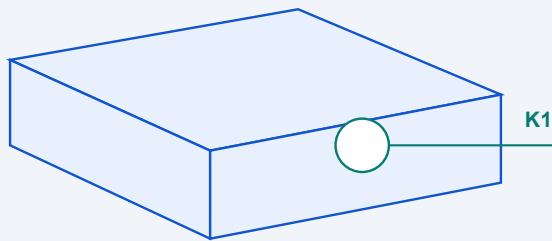
SEPARATE FIVE KINDS OF EVIDENCE

Management-system certification, laboratory accreditation, process accreditation, part conformance and delivery capacity answer different questions. None automatically establishes all the others. A project can need several, but their necessity depends on its risks and contractual requirements.

02 / PROJECT BRIEF

The IH-80 supplier-selection case

Three candidates compete for a controlled instrument-housing order, not an unlimited preferred-supplier status.



IH-80 / INSTRUMENT HOUSING

Envelope: 80 x 60 x 30 mm
Final bore K1: 20.000 to 20.030 mm
Drawing-controlled anodizing route

Explanatory schematic, not a drawing.

The buyer needs a 6061-T6 aluminum instrument housing for non-safety-critical indoor equipment. The nominal envelope is 80 x 60 x 30 mm. Machining is followed by the drawing-specified clear anodizing route. A final-state bore K1 is 20.000 to 20.030 mm; datum-related mounting features, threads, edges and appearance are also controlled by the released drawing.

Project boundary	Case requirement
Baseline	IH-80 drawing Rev C, matching model C and finish specification FS-80-02; conflicts resolved before cutting.
Demand	Initial order: 100 accepted pieces. Forecast: 100 per month for three months, not a binding 300-piece commitment.
Timing	Production dispatch within 15 working days after defined production-order prerequisites; qualification time is separate.
Evidence	Material identity, disclosed machining/finish sites, suitable final-state measurement and a complete agreed inspection report.
Trial	A separately authorized 12-piece route demonstration; trial pieces excluded from the 100-piece delivery.

The bore range is an illustrative project requirement, not a recommended fit. The schematic is not a production drawing. Final approval also depends on the actual drawing requirements omitted from this teaching summary. The buyer owns the intended function and decides whether functional testing beyond dimensional inspection is needed.

03 / NON-NEGOTIABLE CONDITIONS

Write the gates before the score

A strong weighted average must not compensate for an unresolved mandatory requirement.

Case gate	Evidence needed	If unresolved
G1 / Identity and sites	Contracting entity, actual machining address and responsible contacts established.	Hold qualification for the affected route.
G2 / Controlled requirements	Current drawing, finish scope and change/approval rules accepted.	Do not authorize cutting on assumptions.
G3 / Measurement route	A suitable final-state method for K1 and other required characteristics.	No product release based on an unsuitable method.
G4 / External processing	Anodizing site and controlled handoff disclosed and accepted by the buyer.	No production award for an unidentified finish route.
G5 / Delivery resources	A feasible plan for the 15-workday dispatch scope and its prerequisites.	Resolve the shortfall or renegotiate scope.
G6 / Required approvals	Any project-mandated certificates or customer approvals verified.	Apply the actual contractual hold.

Use PASS, FAIL or UNRESOLVED for each gate, with evidence, owner and date. Not applicable needs a recorded rationale rather than a blank cell. Gates should be few, relevant and stated early. Avoid declaring every minor preference a veto while ignoring the one external operation that creates the final functional surface.

In IH-80, Candidate A will score well on many observed practices but will not identify its proposed anodizer. That leaves G4 unresolved. This is not proof of dishonest conduct; the buyer simply lacks the evidence required to approve that route. A low price or a higher total score cannot close the gap.

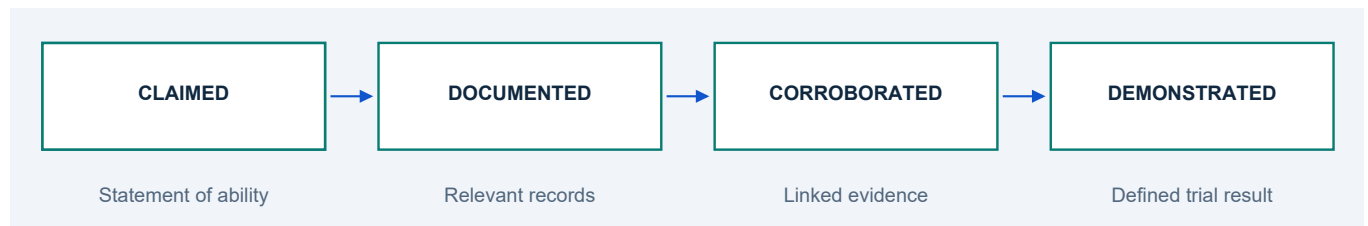
MAKE THE HOLD ACTIVITY-SPECIFIC

A controlled feasibility discussion or separately authorized trial can have a different scope from production approval. State what may proceed while a gate is open. Do not let permission to investigate become permission to ship.

04 / CLAIMS AND CONFIDENCE

Use an evidence register

A statement, a document and a witnessed result carry different information.



Evidence state	Example	Next verification
Claimed	"We can hold very tight tolerances."	Which feature, material, size, route and final condition?
Documented	A capability report from a previous job.	Is it current, complete and technically comparable?
Corroborated	Selected report links to traveler, tool and inspection records.	Does the real process follow that record?
Demonstrated	A witnessed, traceable run under agreed conditions.	What conditions and future changes remain outside its scope?

Record evidence ID, requirement, source, date, site, job/revision, method of access, reviewer, result and limitation. A useful entry might read: E-14, K1 final measurement route, IP-80-03 and operator demonstration at Site B1, reviewed on the audit date; adequate for the planned trial, not evaluated on alternate machines or after a finish change.

These states are descriptive, not a universal hierarchy that makes every witness observation stronger than every document. A short staged demonstration may be weaker than a well-controlled history. Evaluate relevance, authenticity, completeness and independence. Record contradictions instead of selecting only the most reassuring item.

KEEP CONFIDENCE SEPARATE FROM PERFORMANCE

A supplier can have a promising approach with little supporting evidence. Another may have a documented limitation. Do not score an unknown as average performance. Keep the missing item visible and identify the work required to resolve it.

05 / MANAGEMENT-SYSTEM CLAIMS

Verify certificate scope and status

Check the holder, site, scope, standard edition, status and issuer, not just the logo.

Request the complete certificate and any site annex. Match the legal entity and actual manufacturing address to the proposed order. Read the scope: a certificate covering trading or distribution is not evidence that an unlisted production site was assessed for manufacturing. Confirm the issuing body and the applicable accreditation context using official verification routes.

Check	Record in the file
Identity and coverage	Holder, certificate number, addresses, site annex and activity scope.
Status and dates	Current status, issue/expiry information, verification date and source.
Issuer and accreditation	Certification body and relevant accreditation details; unresolved inconsistencies escalated.
Edition and transition	Exact standard reference and issuer confirmation of any applicable transition arrangements.
Project relevance	Which gate it supports, and which part-specific capabilities remain unproven.

As checked on 20 September 2026, ISO lists ISO 9001:2026 as published on 16 September 2026. Do not automatically reject an ISO 9001:2015 certificate because the standard catalogue shows a newer edition. Verify the particular certificate status, transition arrangements and contractual acceptance with the issuer and relevant parties. Do not invent a universal transition deadline.

IAF CertSearch can help verify management-system certificate details. If a search returns nothing, check exact identifiers and contact the issuer or the official inquiry channel. Missing data alone does not prove forgery. Conversely, a valid record does not demonstrate that the proposed bore, finish or delivery schedule is achievable.

AVOID COPYING A GENERIC BADGE

Store the actual verification record and its scope. Do not transfer a sister company's certificate to another entity, treat an expired PDF as current status or describe the customer's supplier audit as accredited certification.

06 / LABORATORIES AND SPECIAL PROCESSES

Read accreditation at the scope level

A recognized institution can still be the wrong institution for your particular test or process.

For outside testing or calibration, identify the actual facility and service. Check the accreditation body's directory and the laboratory's published scope where applicable. Match the property, method, range and relevant capability to the task. A laboratory accredited for one kind of measurement is not thereby accredited for every measurement it offers.

Claim	What to verify	What it does not establish
ISO/IEC 17025 laboratory	Facility, active status and scope for the required activity.	Automatic approval of the machined product.
Accredited calibration	Instrument, method, range, uncertainty and report scope.	Suitability of every later shop-floor measurement.
Nadcap process approval	Applicable site, process/commodity, status and customer requirements.	Approval of an unrelated process or the whole CNC route.
Customer-approved processor	Current customer list, site and defined process scope.	Permission to substitute another processor silently.

ILAC's signatory and facility-directory routes help locate accreditation information. PRI identifies its EAN platform, formerly eAuditNet, as the system supporting Nadcap records and the Qualified Manufacturers List. Use current official records and access rules rather than relying on a cached marketing page.

For IH-80, the buyer requires a disclosed and reviewed anodizing route but has not required Nadcap. Do not add an aerospace scheme merely to make the questionnaire look rigorous. If the contract does require it, verify the exact applicable scope and customer acceptance before work is placed.

KEEP THE RELEASE RESPONSIBILITY CLEAR

A process certificate or laboratory report is an input to acceptance. Someone still has to verify that the correct parts were processed or tested, that required results are present and that the finished lot meets the agreed release conditions.

07 / INITIAL SUPPLIER CONTACT

Ask for a focused first response

Request enough information to shortlist without turning the first email into a full audit.

Send a controlled, appropriate technical package and explain the decision you need. A focused request produces comparable answers. A generic request for every certificate, machine and customer list often produces a large folder with little relevance to the part.

Ask for	Why it matters	Acceptable early response
Proposed route and sites	Shows how the supplier intends to meet the part requirements.	Named machining site, planned operations and disclosed outside steps.
Critical-feature review	Tests understanding before price dominates the conversation.	Questions about datums, final-state bore and finish interfaces.
Inspection approach	Reveals gaps in final-state verification.	Method, equipment and outsourced tests if needed.
Capacity basis	Separates a quoted date from resource availability.	Assumed quantity, lead-time start event and constrained operations.
Comparable evidence	Provides a starting point for verification.	Authorized, redacted records or a demonstration plan.
Commercial exclusions	Prevents a low quote from hiding missing deliverables.	Setup, reports, finish, packing, transport and trial scope.

A legitimate intermediary can manage a capable supply chain, while a factory can outsource important work. Judge the actual control model rather than treating the labels manufacturer and trading company as automatic pass/fail categories. Establish who contracts, who makes the part, who controls changes and who is accountable for release.

WORKED WORDING

Please review IH-80 Rev C and identify the proposed machining and anodizing sites, final-state K1 measurement method, technical questions, delivery prerequisites and exclusions. Provide one authorized example of a comparable traceable job or propose a controlled demonstration. Do not send another customer's confidential drawings without permission.

CHECK THE RESPONSE QUALITY

A useful supplier may ask difficult technical questions. Fast agreement with every requirement is not stronger evidence than a clear limitation and a workable verification proposal.

08 / ENGINEERING ASSESSMENT

Review how the supplier reads the part

The quality of the questions often reveals more than a machine-count slide.

Select the features that could make the proposed route fail. Ask the supplier to explain locating, access, sequence, final-state requirements and inspection for those features. Do not demand proprietary cutting parameters at the screening stage; request enough technical reasoning to evaluate feasibility and the plan for proving it.

IH-80 feature	Question to ask	Evidence of useful reasoning
Bore after anodizing	How will the final requirement be met and verified?	Defined finish/masking sequence and final-state measurement.
Mounting datums	What transfers between setups, and where can error enter?	Annotated setup concept tied to the drawing datums.
Pocket and wall	Can tools reach without unsupported assumptions about stiffness?	Access, support and distortion considerations.
Threads and edges	Which operations control final fit and burr condition?	Defined tools, deburr method and acceptance check.
Appearance zones	Which faces are controlled and how are they protected?	Zone-specific handling and agreed evaluation conditions.

Look for a distinction between what is already demonstrated and what needs a trial. A supplier who says a tight feature requires a special setup, a different inspection method or additional time is giving information you can use. An unsupported universal tolerance claim is not equivalent to part-specific feasibility.

If design changes are proposed, keep them separate from the baseline quote. An easier radius, looser tolerance or altered material may be sensible, but only the design authority can approve its effect on function. Compare the original requirement and the proposed alternative as different controlled options.

DO NOT REWARD SILENT REINTERPRETATION

A quote based on pre-finish dimensions when the drawing requires final-state acceptance is not a compliant bargain. Record assumptions and exclusions explicitly before bids enter the comparison.

09 / SUBTIER CONTROL

Map the route beyond the front door

The supplier you visit may not perform the operation that creates the most important risk.



Ask for a route map that includes stock preparation, machining, deburring, cleaning, external treatment, final inspection and packing. Record the site or responsible organization at each step. Then follow how requirements, identification, status and changes cross those boundaries.

Handoff	Evidence to examine	Failure to investigate
Supplier to anodizer	Controlled order referencing finish specification, revision, masking and acceptance requirements.	Only a generic instruction to "clear anodize".
Parts leaving the site	Count, lot/part identity, condition and transfer record.	An unmarked shared bin with no reconciliation.
Parts returning	Processor records, count and final-state inspection.	A certificate accepted without linking it to the received parts.
Processor change	Required notification/approval and impact review.	Substitution treated as a purchasing-only decision.

Candidate A provides a strong machining demonstration but identifies the anodizer only as a long-term partner. The buyer offers a confidential review route so commercial sensitivity does not require public disclosure. A still-unidentified site leaves G4 unresolved. The response should be a bounded hold, not a public accusation or an assumption that the work is necessarily poor.

CONTROL THE CHAIN YOU DEPEND ON

Where direct access to a subtier is impractical, agree an acceptable evidence and oversight arrangement. Do not claim that a prime supplier's audit automatically covers every subcontractor. The buyer must know how the critical handoff is controlled.

10 / VERTICAL EVIDENCE CHECK

Trace material from receipt to shipment

Pick a real authorized job and follow its identity, including splits and leftovers.

A material certificate is not enough if no one can connect it to the blanks at the machine. Start with the ordered specification and condition, then follow receiving records, certificate identity, stock labels, cut blanks, travelers and delivery records. Use a job the supplier may legitimately disclose; redact other customer information where necessary.

Audit stop	Ask the person doing the work	Record to sample
Receiving	How do you resolve a mismatch between order and certificate?	One accepted receipt and one held discrepancy.
Sawing	How do cut blanks and the remaining bar retain identity?	Split quantity, labels and source link.
Machining	How do you distinguish similar parts or revisions?	Traveler and physical container status.
Outside processing	How is identity maintained when a lot is divided?	Dispatch, processor lot and return reconciliation.
Shipping	Can a delivered lot be traced back without guesswork?	Packing list, release and stock/route links.

Ask for one backward trace from a released lot and one forward trace from a selected stock batch. Compare the scope of the result. An effective trace may use controlled containers rather than individual permanent marking, depending on the part and contract. What matters is whether the chosen system preserves the required identity through the actual operations.

If a discrepancy appears, separate lack of documentation from confirmed wrong material. Hold the affected conclusion and define how it can be resolved. Do not casually substitute a chemical spot check for all required material condition, mechanical property or procurement evidence; a test only answers the property it is suited to measure.

TEST AN AWKWARD BOUNDARY

Look at remnants, rework, mixed deliveries and returned goods, not only a fresh full bar with a clean label. The identity system is most likely to be challenged at splits, transfers and exceptions.

11 / CONFIGURATION CONTROL

Check the revision at the point of use

Follow one change through the entire route, including inspection and external orders.

Ask how a new drawing revision becomes the only active instruction for a job. Inspect the master release, shop copy, controller program, setup sheet, inspection program and subcontract purchase order. A document-control procedure describes intent; a selected changed job shows whether that intent reached the people doing the work.

Evidence link	Question	Useful demonstration
Customer requirement to route	Who checks what changed and what evidence must be repeated?	Change review with affected operations identified.
Route to machine	How is the released file identified and local editing handled?	Program ID and controlled edit/reconciliation record.
Route to inspection	Does the method use the same drawing revision and final state?	Ballooned requirement list and matching program/report.
Change to inventory	Which WIP and finished stock can still be used?	Effective lot boundary and authorized disposition.
Change to subtier	Did the external processor receive and accept the new requirement?	Updated order and acknowledgment.

During Candidate B's audit, a sampled job has an active printed inspection instruction at revision 7 while the controlled register requires revision 8. The team records a finding and stops treating that evidence as sufficient. It does not invent a product failure; the effect on the affected jobs must be investigated separately. The worked closure appears on page 22.

INSPECT THE EXCEPTION PATH

Ask what happens when a programmer edits a file at the machine or a customer sends an urgent email. A system that works only for planned revisions may fail precisely when delivery pressure is highest. Approval, effective scope and record recovery should remain visible.

12 / MACHINE, FIXTURE AND PEOPLE

Verify the resources behind the route

Model names and axis counts are starting information, not a capability verdict.

Relate each claimed resource to the proposed process. A five-axis machine does not automatically outperform a well-designed two-setup route for your part. Ask what workholding, tools, thermal conditions, maintenance and operator competence are needed. Then identify the evidence that supports that specific combination.

Area	Evidence worth sampling	Question behind the evidence
Machine condition	Relevant maintenance, checks and response to a recent problem.	Is the resource suitable now, not only on its purchase date?
Workholding	Fixture ID, locating scheme, support and setup-recreation record.	Can normal operators recover the approved setup?
Tooling	Assembly definition, wear/replacement rule and post-change checks.	Does repeat output depend on undocumented tool intervention?
People	Demonstration by the intended operator and role-specific training record.	Can the process run without the visiting engineer's hidden assistance?
Recovery	A recent stoppage and the restart record.	How is part status and setup validity restored?

Observe within the supplier's safety rules and do not ask for unsafe workholding challenges or machine operation outside authorized procedures. If a demonstration cannot safely reproduce a condition, use an agreed engineering plan. The auditor should not become an unqualified machine operator or bypass interlocks to obtain evidence.

A machine count also says little about availability. Some machines may be dedicated, down for maintenance or unable to use the required fixture. Record which resources are actually committed to your route, what backup exists and what evidence would be required before transferring the job.

LOOK FOR REPEATABILITY IN THE HANDOFF

Ask an ordinary qualified operator to explain the setup instruction, the first-off checks and the reaction to a problem. The goal is to understand the system, not to embarrass a person or reward a rehearsed presentation.

13 / METROLOGY

Audit the measurement decision

Ask how the supplier knows a part is acceptable, not only which instruments it owns.

For IH-80, K1 is a final-state bore after the specified finishing sequence. Ask the supplier to show its measurand definition, method, instrument or program, conditioning, repeated-use evidence and agreed conformance decision rule. Confirm how actual results link to individual trial pieces and to the released drawing.

Question	Strong evidence	Common gap
What is measured?	Defined feature, locations, datum alignment and final part condition.	A convenient dimension that is not the drawing requirement.
Is the method suitable?	Task-specific uncertainty and repeatability considered against the decision.	Display resolution presented as total measurement accuracy.
Is traceability established?	Relevant calibration chain and result records, including uncertainty.	A calibration sticker treated as the whole argument.
Do operators agree?	Appropriate repeated measurements on representative parts and setups.	One favorable reading from one selected part.
Can a conflict be resolved?	Original data retained and a defined technical review path.	Repeated measurement until a passing value appears.

A 0.01 mm display increment spans one third of the 0.030 mm K1 tolerance width. That arithmetic is a warning to investigate discrimination, not a universal rule that decides suitability on its own. The actual method, uncertainty and decision risk still matter. A higher-resolution display can also hide an unsuitable support or alignment method.

ASK FOR A CONTROLLED COMPARISON

If supplier and buyer results disagree, use the same identified parts and compare methods, conditioning and reference definitions before blaming the supplier. An outside laboratory may help, but its relevant competence and scope must also be checked.

14 / STATISTICAL EVIDENCE

Interrogate a capability claim

A precise-looking index can answer the wrong question very precisely.

When a supplier presents a capability number, first ask which characteristic, drawing revision, machine, fixture, material, tool state and time period it represents. Request the ordered underlying data and the calculation method. A report from a short, hand-adjusted sample is not interchangeable with evidence from ordinary repeat production.

Review point	Question to resolve
Requirement match	Are the limits and final-state feature the same as your requirement?
Process identity	Was the data produced on the route proposed for your order?
Stability and sequence	What does the time-ordered record show about shifts, resets and interventions?
Measurement contribution	Is the measurement method adequate for interpreting the observed spread?
Estimation method	Which variation estimate and distribution assumptions are used, and why?
Coverage and uncertainty	How many observations, setups and conditions are represented; what limitations remain?

NIST describes capability in relation to the output of an in-control process and the specification limits. That principle is more important than copying a favored Cpk threshold into every purchase order. A customer-specific requirement may prescribe a threshold and study method; apply it where required, not as a universal CNC rule.

A useful response to an impressive slide

WORKED WORDING

Please identify the part, characteristic, limits, final condition, sample selection, time order and process configuration behind this index. Provide the method and underlying results, including adjustments and excluded values. Explain which conditions are comparable to IH-80 and which still need demonstration.

DO NOT TURN 12 GOOD PIECES INTO A RATE GUARANTEE

The case trial later in this guide supports a bounded technical decision. It is not a long-term defect-rate study. Audit samples are also selected for risk and relevance, not automatically for statistical inference about every record in the company.

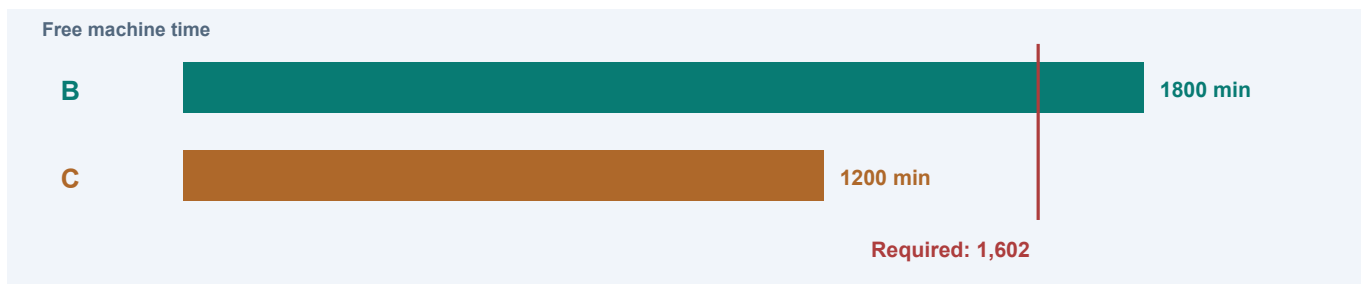
15 / WORKED RESOURCE REVIEW

Check the capacity actually available

IH-80: 100 accepted pieces; a 98% planning yield; one shared machine for both operations.

Assume 8 minutes for OP10 plus 6 minutes for OP20 per start, and 160 minutes for setup and first-off machine occupancy. Planning starts = $\text{ceil}(100/0.98) = 103$. Required machine time is $103 \times 14 + 160 = 1,602$ minutes. Expected-yield planning is not a guarantee of 100 good parts; shortage and recovery rules remain necessary.

Five-day machine window	Candidate B	Candidate C
Available before existing work	$5 \times 420 = 2,100$ min	$5 \times 420 = 2,100$ min
Already committed work	300 min	900 min
Free capacity	1,800 min	1,200 min
IH-80 requirement	1,602 min	1,602 min
Nominal headroom	198 min	402 min short
Free capacity reduced by 10%	1,620 min; 18 min headroom	1,080 min; 522 min short



Candidate C's five-day dispatch claim is unsupported even before finishing and final inspection are added. A rough extrapolation at $1,200/5 = 240$ free minutes per day needs $1,602/240 = 6.675$ machine days, rounded up to seven. Do not assume the same free capacity exists after day five; verify the actual later schedule.

Inspection also needs capacity: $103 \text{ starts} \times 5 \text{ minutes} + 45 \text{ minutes of setup/report work} + 30 \text{ minutes of recheck allowance} = 590$ minutes. Two days at 300 minutes/day provide 600 minutes, only 10 minutes of headroom. Arrange first-off checks during machining and reserve enough final-state capacity after finishing. Do not count only accepted pieces or pretend an inspector can do two jobs at once.

16 / DELIVERY FEASIBILITY

Define what the quoted lead time includes

A date is meaningful only when its start event, scope and dependencies are known.



12-day dispatch plan within a 15-workday requirement; prerequisites apply.

Candidate B scenario	Working days	Evidence needed
Stock readiness and job preparation	D1	Correct material, baseline and released prerequisites.
Machining window	D2-D6	1,800 free minutes reserved; required first-offs staffed.
External finish	D7-D8	Named processor slot and transport/handoff included in this assumption.
Final-state inspection	D9-D10	590-minute allowance; suitable method and available reviewer.
Review and dispatch	D11-D12	Complete evidence, quantity reconciliation, packing and carrier availability.

The case buyer allows 15 working days, leaving a nominal three-day difference from B's twelve-day plan. That is not automatically free contingency: holidays, outside queues, failed checks and review delays can consume it. The schedule begins only after the agreed production-order prerequisites are complete; supplier qualification and the separate trial are not hidden inside this commitment.

Ask whether the offer means dispatch or arrival. State the delivery point and who controls transport, customs or other downstream steps when relevant. Define how early deliveries, partial shipments, buyer changes and delayed approvals affect the date. Do not compare a five-day machining claim with a twelve-day finished-and-inspected dispatch commitment as if they were the same service.

CHALLENGE THE CRITICAL QUEUE

A supplier may have idle machining capacity while the anodizer or metrology team is fully booked. Ask for the limiting resource and a feasible recovery option. Expediting after failure is not a substitute for a plausible original plan.

17 / AUDIT PREPARATION

Plan a focused supplier audit

Agree objectives, criteria, access, people and records before the visit.

Use the audit to resolve material uncertainties, not to photograph every machine. Identify the scope and criteria: project requirements, applicable supplier procedures, contract conditions and any required standards. Select auditors with enough technical competence for the process; disclose conflicts of interest and protect confidential information.

Activity	Minutes	Evidence target
Opening and scope confirmation	20	Sites, participants, safety, permissions and unresolved gates.
Requirement and contract review	40	One current job and one changed requirement.
Machining route walk	70	Actual point-of-use instruction, setup and reaction controls.
Measurement review	50	Method, result traceability and suitability for critical features.
Backward and forward trace	45	Material, WIP, subtier and released-lot links.
Capacity / subtier review	45	Existing commitments, external slot and change rules.
Evidence reconciliation	35	Resolve contradictions and write factual findings.
Closing meeting	30	Findings, limitations, owners and next decision.

This original agenda contains 335 minutes of audit work. With a 45-minute break it occupies 380 minutes, or 6 hours 20 minutes. Travel, site induction or additional specialist work may require more time. It is a targeted visit, not a claim that a full management-system or process accreditation audit can be completed in that window.

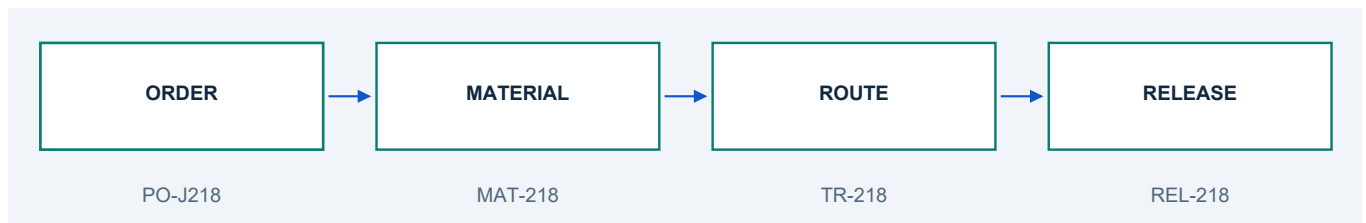
AGREE ACCESS WITHOUT WEAKENING THE OBJECTIVE

If direct record access would expose another customer's information, arrange redaction, a controlled screen share or a suitable demonstration. Record the limitation and its effect on the conclusion. Never pressure staff to disclose confidential material they are not authorized to share.

18 / VERTICAL AUDIT TRAIL

Follow one job through the system

Connect the people, parts and records; do not review each department in isolation.



At Candidate B, select authorized job J-218 from the released-job register. Ask the supplier to reconstruct the order requirement, material receipt, traveler, machining setup, external finish, final inspection and dispatch. Then compare the documents with the physical point of use for a similar active job. A clean final report alone cannot reveal whether an obsolete instruction remained on the shop floor.

Record ID in the teaching case	Cross-check	What a mismatch means
PO-J218 / drawing C	Traveler and inspection plan reference the same released requirement.	Investigate revision impact, not only the filename.
MAT-218 / stock lot M61	Cut blanks and traveler preserve the material link.	A certificate without a part link is incomplete evidence.
TR-218 / route RT-12	Machine, fixture and subtier steps match the actual work.	An undocumented route may invalidate the assumed evidence.
IP-218 / release REL-218	Actual values, dispositions and release authority are retrievable.	A summary pass may conceal missing or changed results.

Select some records yourself from an agreed population; do not rely entirely on the supplier's favorite example. Include an exception such as a changed drawing, returned lot or rework order. Record how and why the sample was chosen. A risk-based audit sample can reveal a failure mechanism without estimating its company-wide frequency.

TRIANGULATE RESPECTFULLY

Ask the operator how the step works, observe the permitted activity and compare it with the record. If the three disagree, seek the reason. Do not treat memory lapses or language differences as automatic proof that the process is uncontrolled.

19 / FINDING QUALITY

Write findings that can be resolved

A finding needs a criterion, observable evidence, a gap and a consequence for the decision.

Avoid comments such as "document control is poor" without a specific basis. Distinguish a confirmed nonconformity against an agreed criterion, an unresolved evidence gap and an improvement suggestion. The classification should follow the applicable audit scheme; do not borrow labels such as major or minor without defining their meaning and authority.

Field	Worked finding F-02 at Candidate B
Criterion	Supplier procedure DC-04 requires the current approved inspection instruction at the point of use.
Evidence	At the sampled workstation, the active printed instruction for J-218 was revision 7; the controlled register required revision 8. The copy and register IDs were recorded.
Gap	The active local instruction did not match the approved revision.
Risk / scope question	Which jobs used the old copy, and did the revision affect acceptance requirements or results?
Immediate decision	Hold reliance on the affected inspection evidence and block IH-80 trial release until the agreed control is restored and the relevant impact is reviewed.
Required response	Containment, affected-job assessment, cause, correction, system action and effectiveness evidence.

The finding does not assert that every J-218 part is defective or that the supplier falsified records. Those would require further evidence. It states the observed mismatch and the question that must be resolved. Keep the original record rather than allowing a corrected printout to erase the event.

WORKED WORDING

E-22 and E-23 show an active local revision 7 against required revision 8 at the sampled workstation. Please identify affected jobs and acceptance impact, restore controlled issue, address why obsolete copies remained available, and propose evidence that the revised control works.

AGREE FACTS, NOT FORCED AGREEMENT

Give the supplier a chance to correct factual errors. A disagreement about significance should be recorded with each party's basis and routed to the decision owner; it should not disappear from the report.

20 / WORKED CORRECTIVE-ACTION REVIEW

Close the action, not only the reply

A new PDF and a training attendance sheet do not by themselves demonstrate an effective fix.

F-02 response stage	Case evidence	Reviewer conclusion
Containment	Local copies checked; affected jobs held for review; instruction 8 issued.	Immediate exposure bounded and point-of-use state corrected.
Impact assessment	Revision comparison and affected-job records show a reporting-field change; dimensional requirements unchanged. Missing record fields reconciled.	No product nonconformance inferred from the version mismatch alone.
Cause	Release process updated the central master but assigned no owner to withdraw controlled local printouts.	Specific mechanism connects to the observed gap.
System action	Print-copy register, withdrawal responsibility and point-of-use release check added; users demonstrate the revised method.	Action addresses the distribution failure, not only this printout.
Effectiveness	Three subsequent changed jobs sampled at point of use; issued copies and registers agree.	Evidence supports bounded closure; later monitoring remains.

Candidate B's quality and manufacturing owners approve the affected-job disposition; the buyer verifies the agreed action evidence before authorizing the IH-80 trial. Preserve the finding, response, revision comparison and review outcome under F-02. The revised procedure is not backdated to make the original mismatch disappear.

Three sampled jobs do not prove that a recurrence is impossible. They provide a targeted check that the changed distribution mechanism has operated. Define a follow-up review if another obsolete copy is found, an affected site changes or local access arrangements are revised.

USE A CLOSURE DECISION

Choose closed within stated scope, additional evidence required or reopened. If the proposed cause does not explain the event, ask a specific follow-up question. A supplier's fast response time is useful, but it is not a substitute for a technically adequate response.

21 / REMOTE AND HYBRID AUDITS

Use remote review with explicit limits

A live screen share can be useful evidence without being equivalent to every on-site observation.

Agree participants, platform, permissions, records, camera access, recording policy and fallback arrangements before the session. Test connectivity. Decide which questions can be resolved remotely and which require a physical inspection, retained sample or qualified local review. Do not present a remote tour as unrestricted verification of the entire site.

Remote method	What it can help show	Limitation to record
Live record retrieval	A selected job can be found and its linked records explained.	Cannot alone establish that physical parts followed the documented route.
Live route walk	Equipment, labels and point-of-use instructions can be discussed.	Field of view, image quality and access constrain observation.
Measurement demonstration	Method sequence, part identity and result capture can be reviewed.	Resolution, environment and hidden setup details may remain unverified.
Controlled file sample	Revision and report logic can be examined in detail.	Access must protect other customers and proprietary process data.

Choose some authorized records during the session rather than reviewing only a prepared slide deck. Ask the supplier to retrieve the source record behind a summary and explain a discrepancy if one appears. Preserve notes with timestamps, evidence IDs and limitations; do not secretly record people or screens.

If a connection fails at a decisive step, mark that item unresolved and agree another method. It is neither an automatic failure of the manufacturing process nor a reason to mark the criterion passed. A hybrid review can use remote document work first and reserve site time for the remaining physical questions.

NO SURPRISE SECURITY TESTS

Do not attempt unauthorized access, scan the supplier's network or bypass permissions to validate a claim. Technical security testing, if needed, requires a separately agreed scope, qualified personnel and explicit authorization.

22 / INFORMATION HANDLING

Protect drawings across the supply chain

A confidentiality promise should be backed by a practical access and change-control method.

Before sharing a detailed design, identify its sensitivity and the people or systems that need access. Ask the supplier how files are received, stored, versioned, shared with processors, backed up and removed from active use. Coordinate with your own security and legal teams where the project needs additional contractual or regulatory controls.

Question	Evidence or demonstration	Decision it informs
Who can access the drawing?	Role-based access, named users and appropriate authentication controls.	Whether access is limited to the intended work.
How does a subtier receive it?	Approved transfer route and defined need-to-know scope.	Whether onward sharing is controlled.
How are revisions distinguished?	Released-file repository and withdrawal of obsolete copies.	Whether confidentiality and configuration work together.
What happens after an incident?	Named notification contact, containment and recovery responsibilities.	Whether an incident can be handled promptly.
Can work be restored?	Evidence of an appropriate backup/restore check.	Whether a backup claim means usable recovery.
What is retained or deleted?	Agreed retention, return/deletion and surviving record obligations.	Whether end-of-project handling is understood.

NIST SP 1305 supports defining and communicating supplier cybersecurity requirements. The questions here adapt that principle to machining information. They are not a cybersecurity certification, an exhaustive control catalogue or proof of compliance with a particular defense or regulated-data program.

RESPECT OTHER CUSTOMERS' INFORMATION

A supplier who refuses to expose another customer's drawings may be demonstrating good control. Ask for permission-based redaction or an alternative demonstration. Do not reward unrestricted disclosure as a sign of transparency.

23 / WORKED COMMERCIAL COMPARISON

Normalize the quote before ranking it

One hundred accepted IH-80 pieces, identical delivery scope and evidence requirements; original USD examples.

Comparable item	A	B	C
Pieces, including agreed finish	100 x 42 = 4,200	100 x 48 = 4,800	100 x 44 = 4,400
Setup / one-time order charge	250	300	450
Required inspection report	120	Included	200
Agreed packaging	80	60	100
Transport to common point	170	140	250
Comparable total	4,820	5,300	5,400
Effective amount / accepted piece	48.20	53.00	54.00

All three offers use the same currency, tax basis, delivery point, finish and accepted-output definition. The separately authorized qualification trial is excluded from these production totals and must be budgeted independently. These figures are not market prices or Vetcnc quotations. In an actual comparison, preserve the source quote, validity date and exclusions.

The unit-price order is A, C, B. The complete comparable-total order is A, B, C. Candidate B is USD 480 above A and USD 100 below C for this order. The apparent saving from A is not yet an executable alternative because its external-process gate remains unresolved.

Do not disguise uncertainty as a price

Keep known costs, exclusions and scenario estimates separate. An assumed future failure charge can be useful in sensitivity analysis, but it is not an observed supplier defect rate or a guaranteed expense. Do not invent penalty costs simply to justify a preferred bidder. Likewise, do not assume 300 forecast pieces are committed and amortize a setup charge over demand the buyer has not ordered.

COMPARE THE SAME PROMISE

The cheapest bid can be appropriate when the route and evidence meet the job. The most expensive bid can still be unsuitable. Technical gates, commercial comparability and the final decision should remain separate records.

24 / SCORING METHOD

Make a score interpretable

Use a small set of evidence-backed domains, pre-agreed weights and consistent anchors.

Rating	Original guide anchor	Evidence expectation
0	Known inability to meet the defined criterion.	A documented limitation or failed agreed requirement.
1	Very limited implementation.	Some relevant evidence, but substantial control gaps.
2	Partial implementation.	Documented elements; important parts not demonstrated.
3	Basic implementation demonstrated.	Relevant evidence supports a bounded working approach.
4	Effective implementation demonstrated.	Corroborated records and practice support the intended scope.
5	Strong, sustained relevant implementation.	Multiple comparable records, effective response and relevant history.
U	Unknown / not adequately verified.	An open evidence item, not a numeric rating.

These are original decision aids, not ISO or accreditation-body scoring rules. Define domain-specific expectations before scoring. For metrology, a 4 needs relevant method suitability and corroborated practice; a room full of equipment is not enough. For delivery, a 4 needs a plausible resource plan and relevant performance evidence, not just a fast quote.

The worked model uses weights totaling 100 and ratings from 0 to 5. Weighted points for a domain = weight x rating / 5. Sum the points only when the handling of unknowns is explicit. Keep each rating linked to evidence IDs, limitations, reviewer and date. A decimal total should not imply more precision than the underlying judgments.

CALIBRATE REVIEWERS

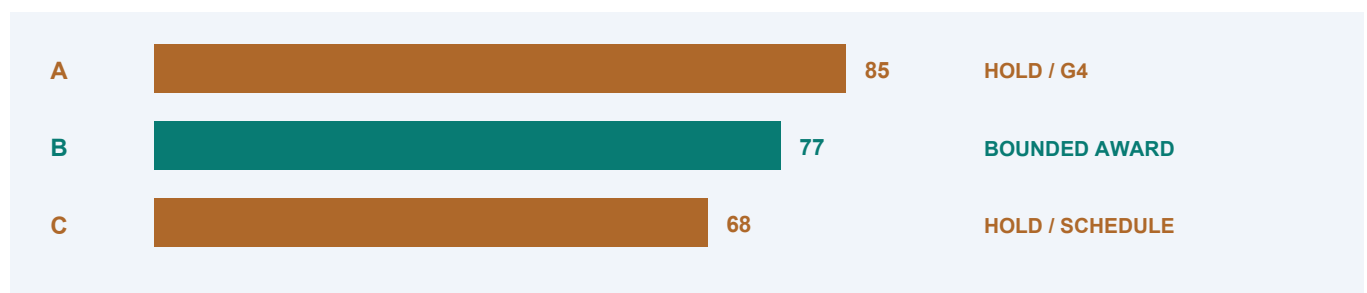
Have engineering and quality discuss one sample domain before rating all candidates. Resolve different interpretations of the anchor; retain a material disagreement. Do not change weights after seeing the scores merely to produce the desired winner.

25 / WORKED SUPPLIER COMPARISON

A high score can still mean hold

Decision-point scores after the documented reviews; scope and gate status remain visible.

Domain	Weight	A	B	C
Technical route fit	20	5	4	4
Measurement system	15	4	4	4
Material / configuration	15	4	4	3
External-process control	10	2	4	4
Capacity / delivery	15	5	3	2
Corrective-action practice	10	4	4	3
Commercial clarity	10	5	4	4
Information handling	5	4	4	3
Weighted total / 100	100	85	77	68



A earns strong scores from corroborated machining, resource and commercial evidence, but only partial external-process control evidence is available. Its proposed anodizer remains unidentified to the buyer, so G4 is unresolved. The high score cannot authorize the missing route. B's score includes the accepted F-02 closure and the bounded trial evidence. C still lacks a verified schedule that supports the offered delivery scope.

B's total is $20 \times 4/5 + 15 \times 4/5 + 15 \times 4/5 + 10 \times 4/5 + 15 \times 3/5 + 10 \times 4/5 + 10 \times 4/5 + 5 \times 4/5 = 77$. That is not a 77% probability of a successful order, a defect-rate forecast or an industry qualification grade.

DECISION FOR THIS PROJECT

A: hold pending G4 evidence. B: eligible for a bounded award after required approvals. C: hold the proposed schedule pending a credible resource and delivery plan. None receives unrestricted approval for all materials, sites or future parts.

26 / MODEL LIMITATIONS

Keep missing evidence and sensitivity visible

A normalized partial score can make an incomplete supplier look deceptively complete.

Earlier in B's review, the measurement-system domain was unknown. The other verified domains contributed 65 points out of a possible 85. Reporting $65/85 \times 100 = 76.47$ as a full score would hide that the missing domain included a mandatory measurement gate. Instead, report 85% weighted evidence coverage, 65 known points and a possible final range of 65 to 80 points.

Review state	Points / coverage	Gate interpretation
Metrology unresolved	65 known; 85% coverage; range 65-80	G3 unresolved; no final eligibility.
Metrology verified at rating 4	$65 + 15 \times 4/5 = 77$; 100% coverage	G3 can pass within the verified method scope.
Weights changed for sensitivity	Technical 20 to 10; delivery 15 to 25	A: 85; B: 75; C: 64. Gate status unchanged.

The sensitivity case moves ten weight points from technical fit to delivery, keeping the total at 100. B loses two points because its delivery rating is 3 while technical fit is 4. C loses four; A does not change. This exposes the model's dependence on priorities without suggesting that the new weights are inherently correct.

Treat not applicable differently from unknown

If a criterion truly does not apply, agree the reason and a consistent weighting treatment before comparing candidates. A supplier's refusal or inability to provide required evidence is not not-applicable. Avoid multiplying a performance score by an arbitrary confidence percentage: the result can conceal which specific fact is missing.

USE SCORES TO SUPPORT A CONVERSATION

If two eligible candidates are close, review the evidence quality, remaining risks, recovery options and commercial terms. Do not let a one-point difference override an unexamined technical issue or imply mathematical certainty about a judgment-based ranking.

27 / QUALIFICATION DEMONSTRATION

Order a trial that can change the decision

Test the proposed route under stated conditions, not the supplier's ability to make one showcase sample.

After F-02 closure and the required readiness checks, the buyer authorizes Candidate B to make 12 trial pieces using the proposed machining site B1 and approved finish site F1. Three recreated setups produce four pieces each. The trial uses the intended drawing, material, route and final-state inspection method. It is a separate paid scope, not an unapproved first production lot.

Trial element	IH-80 instruction
Identity	T-001 to T-012, material certificate MC-80, route RT-80-02 and finish record FR-80-01 linked.
Setup coverage	Three separately recorded setups; intended qualified operators and actual work instructions.
Product checks	Every trial piece receives the agreed drawing inspection, including final K1 and the required functional/assembly check scope.
Records	Actual values, sequence, setup, tool events, outside-process records and any deviations retained.
Stop and disposition	Nonconformance, lost identity or unauthorized route change triggers hold and agreed review.
Release boundary	Trial evidence reviewed before a 100-piece order is authorized. Trial pieces are not counted as delivery stock.

Do not insist that every supplier reveal proprietary know-how beyond what is needed to evaluate the agreed route. But the buyer must be able to link the tested process to the process later used. If the trial relies on a different site, extra hand finishing or exceptional engineer intervention, record the difference and determine whether the evidence still supports the intended decision.

CHOOSE SAMPLE SIZE FOR THE QUESTION

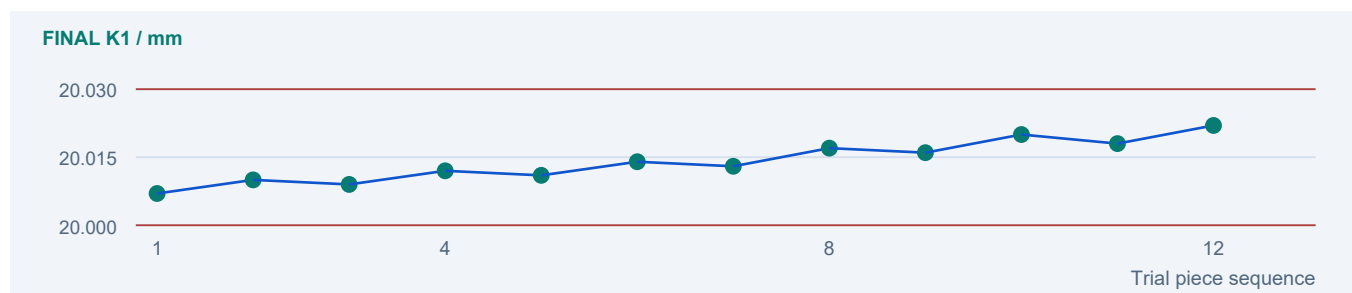
Twelve pieces provide a limited operational demonstration in this case; they are not a universal qualification sample or evidence of a low defect-rate ceiling. Broader process capability or reliability claims need their own justified study and assumptions.

28 / WORKED DEMONSTRATION RESULT

Read the trial result as evidence

Final K1 bore range: 20.000 to 20.030 mm; all measurements below are fictional.

Setup / piece IDs	Final-state K1 values, mm	Block mean
S1 / T-001 to T-004	20.007 / 20.010 / 20.009 / 20.012	20.00950
S2 / T-005 to T-008	20.011 / 20.014 / 20.013 / 20.017	20.01375
S3 / T-009 to T-012	20.016 / 20.020 / 20.018 / 20.022	20.01900



The observed minimum is 20.007, maximum 20.022 and overall mean 20.0141 when rounded to four decimals. Extra digits in averages describe arithmetic, not improved instrument resolution. All twelve K1 values are inside the drawing range under the case's pre-agreed simple acceptance rule. The real project must use its agreed decision rule and suitable measurement uncertainty.

The case record also reports the other required drawing checks, finish evidence, material identity and assembly-check scope as acceptable. Those records would be attached in an actual submission; passing K1 alone does not prove them. Record the complete result set, including operator interventions, not just a photograph of one completed housing.

Notice the pattern as well as the pass result

The three block means rise from 20.00950 to 20.01900. The small, ordered trial cannot establish a causal explanation or a stable distribution. The buyer asks the supplier to retain setup and finishing records and monitor K1 during the first order. The result supports the defined trial conclusion, not a blanket statement that the route is statistically capable.

DECISION BOUNDARY

Proceed only with the required approval and first-order controls. The trial does not qualify a second machine, another anodizer, a different alloy or a changed bore requirement. Those changes return to an impact review.

29 / WORKED AWARD DECISION

Write the approval as a permission

A supplier status should be understandable to the next buyer, planner and inspector.

Approval field	IH-80 / Candidate B decision
Authorized scope	One order for 100 accepted IH-80 Rev C pieces, using the agreed model and FS-80-02 finish requirement.
Route and locations	Machining Site B1, route RT-80-02 and named anodizing Site F1; no substitution without required review.
Evidence basis	Verified gates, F-02 closure, twelve-piece trial package TP-80-01 and capacity plan CAP-80-01.
Launch controls	Every-piece K1 final-state results; remaining drawing checks per agreed plan; first-off and change-event review.
Release documents	Material/processor records, required inspection report, lot identity and authorized shipment release.
Remaining limitations	No long-run capability claim; tight inspection headroom; first-order monitoring remains.
Review triggers	Site, subtier, material, fixture, program/method changes; repeated escapes; missed commitments or relevant certificate-status change.

The buyer's engineering, quality and purchasing owners accept their respective responsibilities. A purchase order alone does not waive a drawing requirement; a supplier-quality approval alone does not authorize a commercial commitment. Keep the decision, sign-off authority and effective order together so these roles do not become confused.

Candidate A remains on hold for the undisclosed external route despite its 85-point score and lower comparable total. Candidate C remains under review for a credible delivery plan. Neither is labeled permanently incapable; both can return with evidence that resolves the specific gap. B's approval is also revisable if the stated basis changes.

NO SILENT EXPANSION

The 300-piece forecast is not an order and does not expand this approval to every future part. Additional orders need the agreed current-baseline check and any required review. Preserve restrictions where the buying system can actually enforce them.

30 / WORKED PERFORMANCE DASHBOARD

Monitor what happens after approval

Illustrative extension: two further 100-piece orders are separately approved; six lines total 300 received pieces.

Line / quantity	Required day	Actual day	On time?
1 / 40	10	10	Yes
2 / 60	10	12	No
3 / 50	35	35	Yes
4 / 50	35	34	Yes: permitted early
5 / 80	60	60	Yes
6 / 20	60	64	No

For this example, delivery means receipt at the agreed point; up to two working days early is permitted, with no late grace period. Line on-time delivery is $4/6 = 66.67\%$. Quantity on time is $(40 + 50 + 50 + 80)/300 = 73.33\%$. These are different metrics. Define the date basis and early window before comparing suppliers, and retain the original agreed dates when changes are evaluated.

Additional observation	Calculation / meaning
Three nonconforming received pieces	$3/300 = 1.00\%$, or 10,000 observed nonconforming pieces per million received. Not a prediction of the underlying defect rate.
Five document-complete deliveries	$5/6 = 83.33\%$ complete at initial receipt; a later corrected report does not erase the original gap.
Open corrective actions	Track severity, age, ownership and effectiveness, not only the number of replies.

Include overdue undelivered lines in a defined reporting population; a shipped-only report can hide the worst delays. Report customer-caused changes separately using agreed rules rather than quietly resetting every late date. Nonconforming receipts need their own containment and disposition records; this dashboard does not authorize use of held pieces.

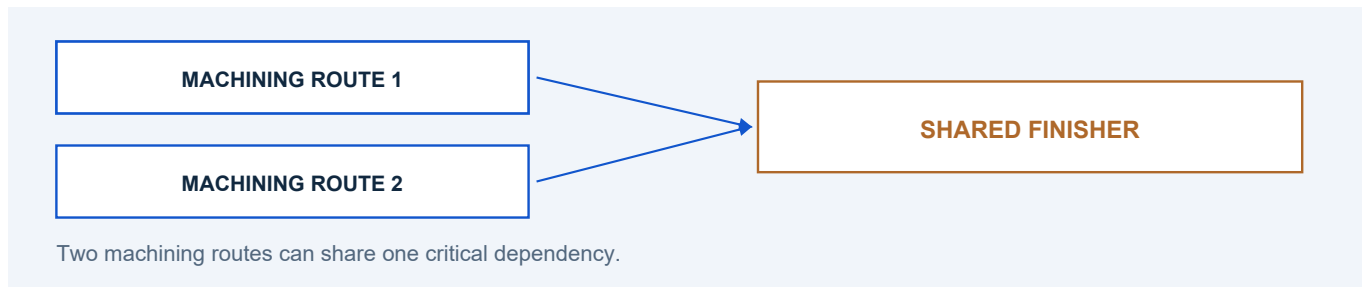
USE A TREND TO TRIGGER WORK

Review repeated late lines, the three received defects and the incomplete document pack. Determine causes and actions; do not just lower a score. Small denominators make percentages volatile, so retain counts, period, part mix and severity.

31 / CONTINUITY AND REQUALIFICATION

Check whether the backup is independent

Two supplier names can still depend on the same critical process, stock source or tool.



A second machining source is not a complete recovery plan if both routes use the same constrained finisher, sole material source or customer-owned fixture. Map the shared dependencies before claiming redundancy. The diagram is a generic example, not an assertion about Candidates A/B/C.

Recovery question	Evidence to establish
What can fail?	Machine outage, key-person absence, external-process interruption, material gap or data loss.
What is actually ready?	Approved alternative site/route, usable tooling, released files, suitable inspection and material availability.
What must be repeated?	Impact review, setup verification, trial/first-article work or customer approval required for the change.
How long does recovery take?	Resource reservations and dependencies, not only the alternate supplier's quoted cutting time.
Who authorizes activation?	Named technical, quality and purchasing owners with clear communication to the customer.

Document tool ownership, storage, access and condition where these affect recovery. A fixture that belongs to the buyer but cannot be located or safely shipped does not provide immediate capacity. A program backup may also require the right machine configuration, postprocessor context and verification before use elsewhere.

REQUALIFICATION FOLLOWS IMPACT

A change can invalidate some evidence without invalidating everything. Identify affected requirements and repeat proportionate verification. Apply mandatory customer schemes where required; do not invent a universal annual full requalification rule for all CNC suppliers.

32 / PRACTICAL STARTING POINT

Build your assessment package

Use a compact evidence-led file that another reviewer can understand.

Package section	What to include
Project definition	Part/revision, intended use, critical features, quantities, timing and final-state acceptance requirements.
Gates and criteria	Non-negotiable conditions, agreed scoring domains, owners and evidence needed.
Evidence register	Source, date, site, job/revision, result, limitation and open questions.
Audit and actions	Scope, authorized samples, factual findings, supplier responses and effectiveness review.
Commercial comparison	Comparable quantities, finish, reports, delivery point, exclusions and separately budgeted qualification work.
Demonstration	Approved trial plan, actual results, part identity and any interventions or dispositions.
Decision and follow-up	Bounded permission, authorized route, restrictions, monitoring and change/review triggers.

The next three worksheets serve as front sheets, not replacements for the supporting records. Worksheet A defines the project and gate status. Worksheet B records one evidence item or finding and its closure. Worksheet C records the award decision, comparable offer and post-award controls. Reuse additional copies where needed and keep an index of attachments.

When approaching VetCNC, share the released drawing/model revision, material and finish requirements, expected quantities and evidence needs. Ask for a proposed route and a candid discussion of what is demonstrated, assumed or still requires verification. Apply the same evidence discipline to VetCNC that you apply to any candidate.

THE RESULT SHOULD BE A BETTER DECISION

The objective is not the longest questionnaire or the most impressive certificate folder. It is a traceable answer to: this supplier, at these sites, using this route, may perform this defined work under these conditions. Keep unknowns visible until the right evidence resolves them.

APPENDIX A / REUSABLE WORKSHEET

Your project and qualification gates

Define the part, route and non-negotiable conditions before comparing suppliers. Attach detailed criteria and evidence.

Part / revision / intended use

Quantity / timing / final-state needs

Supplier entity / machining site

External sites and critical handoffs

Mandatory gates / pass-fail criteria

Required certificates / verification IDs

Gate status / unresolved items

Owner / deadline / allowed activity

Evidence needed to resolve open gates, scope restrictions and reviewer reference

☐ No unresolved mandatory gate is hidden by an overall score.

☐ The proposed route and required evidence are defined for this specific job.

Save and reopen in a form-capable PDF reader. Fields do not calculate, certify a supplier, sign an approval or transmit data. Attach detailed records separately.

APPENDIX B / REUSABLE WORKSHEET

Your evidence and finding record

Use one sheet per important claim or finding. Preserve the criterion, original evidence and limitations.

Supplier / site / audit scope / date

Claim or criterion / requirement ID

Evidence IDs / source / job revision

Observed result / gap / limitation

Affected population / containment

Cause / correction / system action

Effectiveness evidence / review date

Decision owner / status / follow-up

Closure rationale, residual limitations and linked records or approvals

☐ The conclusion follows the recorded evidence and does not exceed its scope.

☐ Original findings and the evidence for closure remain retrievable.

Save and reopen in a form-capable PDF reader. Fields do not calculate, certify a supplier, sign an approval or transmit data. Attach detailed records separately.

APPENDIX C / REUSABLE WORKSHEET

Your supplier award decision

Authorize a defined scope. Attach the comparable offer, gate register, trial evidence and required approvals.

Part / revision / order / supplier

Approved sites / route / external process

Gate outcome / evidence coverage

Score / weights / limitations / date

Comparable amount / scope / exclusions

Trial outcome / open actions / owners

Authorized quantity / release controls

Monitoring and requalification triggers

Named approvers, decision reference, effective scope and prohibited substitutions

☐ Technical, quality and purchasing approvals are obtained for their respective scope.

☐ Changes, monitoring and restrictions are visible before the next order is placed.

Save and reopen in a form-capable PDF reader. Fields do not calculate, certify a supplier, sign an approval or transmit data. Attach detailed records separately.

REFERENCE REGISTER / 1

Primary sources and their scope

Public sources checked 20 September 2026. Linked titles open the source; the case, score model, calculations and diagrams are original.

[01] ISO**ISO 19011:2026 - Guidelines for auditing management systems**

Public scope and publication record: fourth edition, May 2026. Audit guidance, not a supplier certification scheme. The original checklists here do not reproduce or claim full conformity to the licensed standard.

[02] ISO**ISO 9001:2026 - Quality management systems**

Official catalogue and public FAQ checked on 20 September 2026: the new edition was published on 16 September 2026. Verify a supplier certificate and applicable transition arrangements with its issuer; publication alone does not establish that an older certificate is invalid.

[03] IAF CertSearch**General FAQ: information available when validating certificates**

Database scope includes management-system certificate status, standard, scope, sites, certification body and accreditation body. A database record is not a machining capability test.

[04] IAF CertSearch**How to verify a company certificate**

Official instructions explain that absent search results can have several causes and provide an inquiry route. Absence is an unresolved verification question, not sufficient proof of fraud.

[05] ILAC**MRA and signatories: locating accredited facilities**

Public explanation of signatory and accredited-facility directories. Check the relevant body, facility and specific scope rather than treating a logo as coverage of every service.

[06] ISO**ISO/IEC 17025:2017 - Testing and calibration laboratory competence**

Public scope and edition record, confirmed in 2023. Accreditation for a defined laboratory activity is different from management-system certification or approval of a machined product.

Catalogue records establish public scope and edition context, not access to every licensed clause. Apply the full agreed standards and customer requirements. The original case is not a certification audit, an industry qualification scheme or an independent supplier rating.

REFERENCE REGISTER / 2

Primary sources and their scope

Public sources checked 20 September 2026. Linked titles open the source; the case, score model, calculations and diagrams are original.

[07] NIST

Metrological Traceability: Frequently Asked Questions and NIST Policy

NIST TN 2156 / policy context. A measurement result needs an appropriate calibration chain and uncertainty; a calibrated instrument label alone does not establish result fitness.

[08] NIST/SEMATECH

Engineering Statistics Handbook: What is process capability?

Capability concerns process behavior relative to requirements. Stability, sampling and distribution assumptions matter. This guide does not infer a production defect rate from the fictional trial.

[09] ISO

ISO 10007:2017 - Guidelines for configuration management

Public scope for configuration-management guidance across the product life cycle. Used for context, not to represent the sample registers as a full standards implementation.

[10] Performance Review Institute

Nadcap program and PRI EAN platform

Official program description and verification route. PRI EAN, formerly eAuditNet, includes accreditation records and the Qualified Manufacturers List. Required process scope and customer applicability still need checking.

[11] SAE International

AS9102C - Aerospace First Article Inspection Requirements

Public scope and June 2023 revision record. Apply the full required standard when contracted. A generic first-article report or this guide is not an AS9102 compliance claim.

[12] NIST

SP 1305: CSF 2.0 Quick-Start Guide for Cybersecurity Supply Chain Risk Management

Final publication, October 2024. Supports defining and communicating supplier cybersecurity requirements. The machining-data questions in this guide are original practical adaptations, not a NIST certification or compliance assessment.

Sources support the principles identified in the guide; they do not endorse VetCNC or validate the fictional case. Recheck status, scope and applicable transition arrangements when using a certificate or approval in a live sourcing decision. No certification or independent professional approval is implied.

A BETTER SUPPLIER DISCUSSION STARTS WITH THE PART

Bring the requirements. Ask for the evidence.

Share your drawing revision, material, finish, quantity and acceptance needs.
Discuss the route before treating a quotation as a qualification.

01 DEFINE

The work, critical interfaces and evidence your project requires.

02 VERIFY

The proposed route, sites, records and remaining uncertainties.

03 AGREE

The trial, deliverables, approval boundaries and change controls.

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