Supplier vs EPC
Why is Vendor Documentation so Painful?

Results of our Survey

DOCBOSS

Introduction - The Documentation Challenge

Every company submitting documents to an engineering, procurement, and construction (EPC) partner faces the same problems: **large volumes of manual work, coupled with complex (or unclear) expectations and procedures.**

This often leads to **time-consuming rework, frustrating both parties.** The conventional solution is to simply muddle through, adding expensive resources and extra cost to the project, eroding profit margins and tarnishing valuable relationships.

We surveyed **106 respondents**; 45 from supplier organizations and 61 from EPCs, about the difficulties, challenges and frustrations they each encountered executing project document control. This document is the result of their feedback. Note that 19 of the supplier respondents are current DocBoss customers.

While most of the EPC respondents are document controllers from larger companies, the supplier respondents have a broader range – including document control, project management and inside sales. Supplier operations include manufacturers, fabricators and distributors of pumps, instrumentation, valves, tanks and skids. They range in size from fewer than **50 employees to in excess of 500 employees**.

This industry study seeks to evaluate the difficulty of information handover; share methods of resolution, create some mutual understanding and provide some information you can use in your own project document management systems.

106 Survey respondents
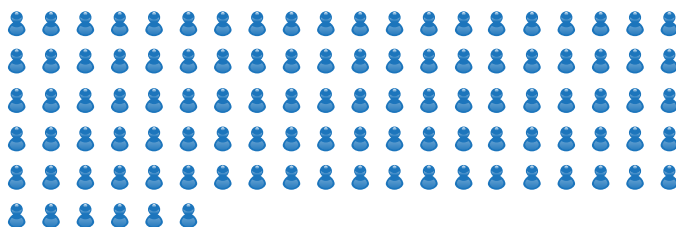
45 Supplier organizations
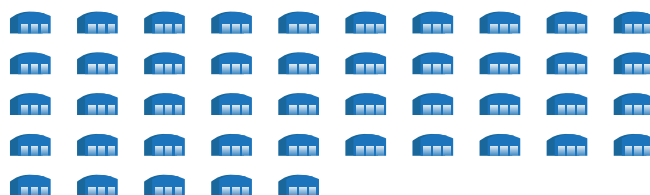
61 EPC organizations

What Do Suppliers Think?
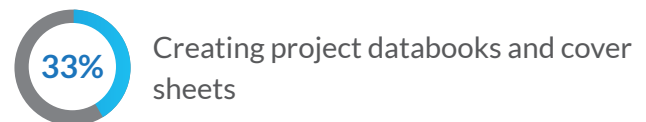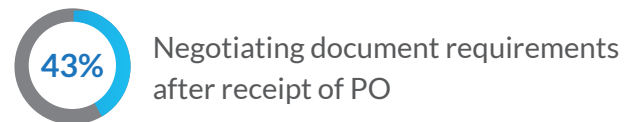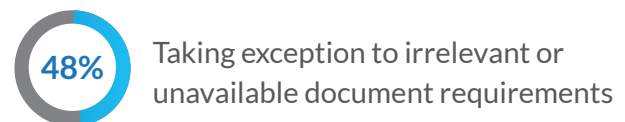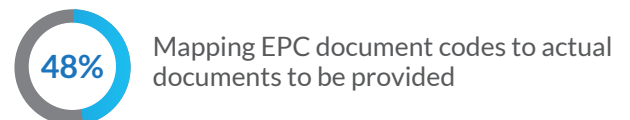
Dealing with EPCs is slow and costly.

EPCs make huge IT investments and work largely in the information space. With the volume of digitally stored data involved with most projects, information management is a necessary and critical competency. New documents and data being input into the systems must be properly categorized and managed, such that it can flow out to the end user plant operations on turnover. Less time is available to verify and interpret data received, so the suppliers are being asked (forced?) to pre-process information to suit the EPC input requirements.

The EPC is also faced with the responsibility to ensure equipment is properly procured and properly manufactured. Specifics of the contract between the EPC and end user may impact how the procured material is managed. Schedule factors can put a very high importance on receiving vendor data as the project moves into the critical start up stages. At that point, receipt of vendor data can easily be on the project critical path, jeopardizing EPC performance. By ensuring a careful review of supplier data at critical check points, the EPCs ensure mistakes are not made. Of course, the validation and checking of processes drive up the volume of documentation required especially in terms of drawings, testing and traceability.

These two components lead both to an explosion in the quantity and complexity of documentation as well as the work required to submit the documentation packages.

Generally, suppliers understand these requirements and accept them as part of the supply. The frustration (and additional cost) arrives when each and every minor mistake/variation trigger the document rejection / resubmission process. A lack of empowerment at the document control function leads to frustration in the supplier community. Further, once a working relationship is established, the high turnover within the EPC document control function forces suppliers to revisit every hard won concession agreed by their previous contact.

Suppliers indicated their EPC-driven documentation challenges to be:

48% Mapping EPC document codes to actual documents to be provided

48% Taking exception to irrelevant or unavailable document requirements

43% Negotiating document requirements after receipt of PO

33% Creating project databooks and cover sheets

* (percentage of supplier respondents who chose this as one of their top three concerns)

What Do Suppliers Think? (Continuation)
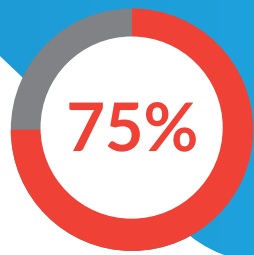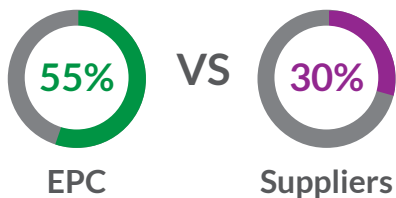
75% of suppliers reported experiencing payment holdbacks related to documentation

In addition to identifying the biggest pain points from suppliers, the survey uncovered more general feedback which should be of interest to suppliers.

The acceptability of explicitly billing for additional document-related workload was supported by 55% of EPC respondents, while only 30% of suppliers explicitly identify project documentation as a line item on their proposals. The presumption is that itemized billing comes hand in hand with a higher tolerance and greater commitment to execute the work correctly, leading to better project results.

Acceptability of explicitly billing for additional document-related workload

55% EPC **VS** **30%** Suppliers

Over 75% of suppliers reported experiencing payment holdbacks related to documentation; 15% agreed it was a fair practice while 25% felt it was a ploy to defer payment. Most suppliers are frustrated by EPCs who are slow to respond; 50% agreed that with shorter review/approval cycles, they would categorize holdbacks as fair.

- EPCs don't choose suppliers based on document management skills. It would seem that although document control is an important factor in the execution of a successful project, a supplier is rarely evaluated on this skill during the selection process. In fact, only 21% of EPC respondents listed supplier document management skills as a criterion when evaluating potential suppliers.

- Although high quality document control is a basic expectation of EPCs, very little time is spent during supplier selection and project kickoff to set up the project's document control scope for success. This leads to more time spent during the course of the project managing documents, costing additional time and money on both sides.

- Only one in four suppliers reported that most of their documents are approved upon first submission. The same proportion felt that their document submissions are never approved the first time. Obviously some EPCs are very good at giving clear document requirements, and some give very poor, unclear, or unrealistic ones.

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What Do EPCs Think?

In the recent industry survey commissioned by Doc-Boss, suppliers indicated their EPC-driven documentation challenges to be:

- **A lack of attention to deliverable timelines**
- **A lack of clearly defined submission protocols**
- **Receiving poor quality document scans or copies that simply aren't usable.**

The single most important factor to EPC respondents is accuracy and format. More than 80% of EPC survey respondents stated that data validation and correct formatting are the most important factors for successful supplier document management.

Suppliers often have no document control system or clearly defined protocols. To compensate and to ensure the EPC provider and the end users get the data they require, EPC teams force structure on their suppliers by:
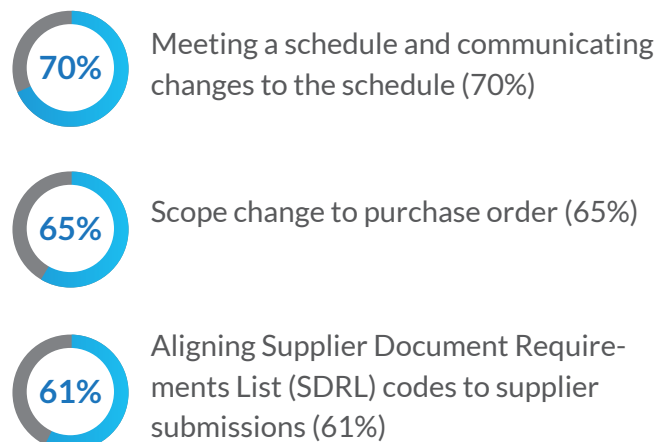
- Providing very specific instructions for project documents including specifications for document numbering, formatting details, and status

- Strictly managing the compliance of documents to the submittal standard, often rejecting documentation and sending it back for revision

- Receiving documents, juggling revisions and resubmissions, and loading documents into their own document management systems

- Manually bundling information according to the project engineer's preference

- Holding back a portion of the supplier's final payment in order to get the document scope completed thoroughly and properly

The management of this process requires a major communication effort between the EPC and supplier. The EPC document controllers can be left to feel suppliers are uncooperative when it comes to documentation.

EPCs indicated their key overall challenges in working with suppliers to be:

Top 3 EPC Concerns"

70% Meeting a schedule and communicating changes to the schedule (70%)

65% Scope change to purchase order (65%)

61% Aligning Supplier Document Requirements List (SDRL) codes to supplier submissions (61%)

* (percentage of supplier respondents who chose this as one of their top three concerns)

In addition to identifying the biggest pain points from suppliers, the survey process identified more general feedback which should be of interest to suppliers.
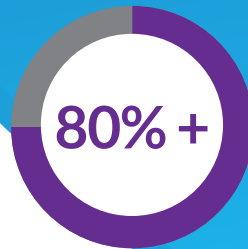
80% +

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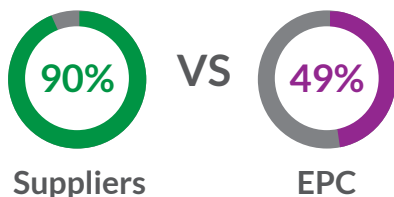
Various data points in the survey indicate that suppliers have fewer resources (and tools) available for document control:

• Fewer than 20% of suppliers reported having dedicated document control resources; The rest rely on project managers or technical resources to perform this work as required. We expect that the more technical a resource, the less time they can commit to document control.

• To manage data and documents, 75% of EPC respondents use an Electronic Document Management System (EDMS). However, only 2% of suppliers currently have an EDMS in place. Instead, they create and manage their documents using spreadsheets and pdf tools, leading to errors and rework.

• **Almost all suppliers surveyed – a full 90% – reported using email regularly** to send and track transmittals. **By contrast, 49% of EPCs declared this to be their preference.**

Using an EDMS allows detailed tracking for documents. Email for transmittal management has some significant drawbacks: searching to track down submissions; weak audit trails; and non-deterministic delivery (you don't know if it was received). Interestingly, the majority of EPC respondents (68%) expressed a willingness to log into a vendor system to receive submissions.

• The most experienced supplier document control experts seem to have access to an EDMS at their workplace. In fact, supplier document controllers with more than five years' experience were three times as likely to be an EDMS user.

So which came first:
The chicken or the egg?

Do more experienced document controllers demand more sophisticated systems, or are these skilled people gravitating to companies that already have better tools in place?

Email preference to send and track transmittals.

90% VS **49%**

Suppliers **EPC**

Areas of Improvement for Suppliers

Based on the survey results, the following are suggested areas of improvement for each respective both EPCs and suppliers

Deliverables management

Suppliers must have all documentation requirements clearly defined at the bid stage to ensure there is no confusion upon project completion and to ensure an exact understanding of what documentation formats are required. Insist on a brief kickoff meeting to discuss document control specifics. Define the requirements and set expectations up front.

Procedures/Training

A lack of proper execution leads directly to more stringent submission requirements on the next project. It is our assumption that formal procedures are not common at supplier organizations. We suggest suppliers need to put more focus on building formal document control procedures, just like any other core process. A simple process map created with key stakeholders would increase the visibility of the work, and allow suppliers to identify gaps in process, and clarify escalation points. The maturity or procedures (or lack thereof) is a topic for the next survey (lack of procedures).

Revenue

Suppliers of manufactured equipment should identify document services separately from the equipment cost. While documentation is integral to the supply of engineered equipment, manufactured equipment is different, and the workload can be intense on capital projects. With many documents required for every unit, these projects can see thousands of documents flowing for hundreds of units. With project orders generally commanding a reduced price per unit, suppliers have little room to invest in quality documentation preparation and management.

Of interest, the survey results show that EPCs generally expect to be billed for documentation work because they understand it is time-consuming, has value, and is part of the required deliverable.

Deliverables management

EPCs should take more care to trim vendor data requirement lists (VDRL), prior to inclusion in RFPs. Supplier experience sees irrelevant document requirements often listed in the VDR. In some cases, irrelevant lists (based on equipment type) are included in the RFP. Suppliers tend to ignore the lists in those situations, seeing that the requirements are clearly not relevant for the requested equipment. Suppliers who do invest the time do not feel rewarded, as their list of exceptions appears greatly exaggerated compared to a less vigilant competitor.

A more pragmatic review process for exceptions should be embedded into the EPC process. This has been identified by suppliers as a frustrating and combative process. Even in the case where the bid did include exceptions to VDR items, they are rarely corrected with the issuance of the PO. A delay in accepting the PO often challenges delivery timelines, while acceptance locks the supplier into a fight with document control. PO revisions for VDR exceptions is rarely an acceptable practice.

Once the vendor has been selected and the PO placed, EPCs should initiate a joint review of the information requested from suppliers.

Standard code list by product type

An industry-standard reference list of document types would be helpful to your suppliers. Such standards do exist i.e. Norsok standards. While individual EPC lists would continue to exist, if these lists could be referenced to a standard, the suppliers could more easily determine the requirements. It would lead to better upfront understanding of requirements, and better document identification upon submission.

Metadata

In this context, metadata refers to tag lists, document codes, and document numbers related to the documentation. The survey results identified that loading supplier documents into the EPC data management tool was the biggest time-waster for EPCs. This may result from two issues: the quality of supplier metadata and the way in which EPCs review the supplier metadata. With suppliers accepting the burden to supply document metadata, there is a clear opportunity for IT services to automate the onboarding process. This could be accomplished by implementation of an intermediate portal with sufficient intelligence to qualify data at the point of submittal. Suppliers who are providing good data will reap the reward of minimal rework, while less capable suppliers will be faced with immediate feedback.

Holdbacks

Holdbacks are used to ensure the delivery of correct and complete project documentation. Based on the survey, suppliers feel the size of the holdback should vary based on their track record. Suppliers with high quality document work should not be subject to the same terms as a supplier with no document control capability. EPCs should spend some time defining the specifics of the document holdbacks. Many suppliers felt they were used more for EPC cash management, than a management tool.

Supplier Action Points

The following are action oriented suggestions for both Suppliers and EPCs based on the survey results and our own observations of current gaps.

- **Establish more rigorous internal document control procedures.** If you have no processes, take what you get from an EPC and make it your own just like any other procedure in your company. Do a one-day sprint to formalize some document control procedures. Run your plan past a document control expert who has significant experience working with EPCs for verification.

- **Ensure that you apply a structured, unique, and project-specific number** to every document leaving your organization. Every document controller should follow the same pattern. We suggest formats like [Sales Order]-[Doc Code]-[Sequence]-[Sheet] i.e. S1234-B01-001-01. Note that the document number never changes (but the revision number, and titles may change). Use transmittal numbers when sending and track every in/out document by document number.

- **Have a digital stick file for every project.** You should be able to quickly locate the most recent version of every document. Create sub-folders for previous versions.

- **Ensure that your technical staff review the customer-supplied VDR at the proposal stage** to save time and frustration once the project has started. Have your questions answered before the project begins.

- **Create an internal code list and map it to your EPC codes.** If your technical staff can do a cross reference, document control becomes much easier.

- **Learn how to bill for your documentation work** when appropriate. It is an extra cost that your company must incur to prepare custom documentation that meets your customer's requirements. As the survey showed, EPCs generally expect that they will be billed for documentation work and do understand the value when it's done properly. The survey results also show that very few suppliers currently bill for this work.

- **Look for document requirements asking to embed metadata into each PDF file.** EPCs and their clients would reap significant benefits here and should be included in your spec when you go looking for document control tools.

EPC Action Points

Engineering companies need to find a method to discuss document requirements after the equipment supplier has been selected .

- **Move away from cover pages.** Utilize metadata in whichever form is available. If suppliers have the data in machine readable format, make every effort to accommodate the available format. If you (the EPC) rely on cover sheets for review, you should be able to create them automatically for supplier metadata however it is supplied. This should also extend to databooks. If the documents have been supplied and the data is available, EPCs should be able to generate the databooks.

- **Allow suppliers to embed metadata (as XML) directly into the PDF documents.** This should provide additional value to you and to you customer on turnover. Effectively the metadata travels inside the document. This won't be easy for many suppliers, but should be supported if available.

- **Provide incentives to more capable suppliers.** Less holdback, higher preference.

- **Hold 5 minute document kick off meetings** (take notes!) with your supplier immediately after the PO is let. Review the requirements, and agree on reasonable exceptions. With the exceptions handled and documented upfront, fewer issues will pop up downstream.

- In that vein, **improve communication between procurement and engineering,** facilitating changes to document requirements. Currently it can be difficult for suppliers to change/amend document requirements after being awarded a project. On occasion, a supplier might determine a document(s) is unavailable in the required format after the project has started and the EPC change management process is cumbersome and slow.

The Ideal Solution

Based on pain points identified by both sides of the equation, the key to solving the problems of document management is to reduce or eliminate manual steps. Looking at the primary challenges of each party, it is clear that many of them would be eliminated or significantly mitigated if manual interaction could be removed.

The ideal EDMS solution to the problems of EPC-Supplier document control interactions would:

• Leverage project information directly from a Bill of Materials to build an accurate, complete, real-time document register

• Allow for upload of custom templates for cover sheets, transmittals, and document registers

• Prepare final data books with automatically populated bookmarks, links, and indices

• Create complete, up-to-date submittal packages in one click

• Track and report on document submission history and approval status

• Manage timelines with dashboard alerts and automated reminder emails

• Offer the ability to itemize documentation charges and bill accordingly for the work

EDMS tools vary greatly in functionality, maintenance, configurability, cost, and end-user focus. If your organization is in the market for a new system, the list of requisite EDMS features probably mirrors your list of existing aggravations. The best product for you should be easy to navigate, be cloud-accessible to allow for collaboration from both sides, and will be configurable to meet specific needs without requiring heavy coding or customization.

❯❯ DOCBOSS

Focused largely on tagged equipment, DocBoss minimizes the manual work required to deliver project documentation. With a unique solution which creates and links the document register to the order data, DocBoss systematically creates document metadata (including document specific tag lists).

We then use this data, (along with a heavy dose of document management and document formatting magic), to comply with document submission specifications. The DocBoss system appends customer specific cover sheets to every document, includes all relevant metadata (including tag lists), tracks approval status, location, transaction history and due dates.

Finally, it creates every document compilation (record books, shipping dossiers etc.) required for the job.

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