

GLOBAL PROVIDER OF NUCLEAR & ENERGY SOLUTIONS GLOBAL DESIGN CONTROL STANDARDIZATION PROCESS

CONTEXT

In early 2009, a French public limited company that provides services to industries specializing in nuclear energy, mining, chemistry, enrichment, combustibles, services, engineering, nuclear propulsion and reactors, treatment, recycling, stabilization and dismantling began a standardization project to align their Global Design Control Processes. These processes were disparate due to a merger of three companies in 2001 which spanned three major geographies (US, France and Germany) across the three companies.

THE CHALLENGE

The purpose of this initiative was to support the client in defining a standardized Global Design Control Processes from the legacy companies' existing processes. The project was additionally challenged by the fact that each of these organizations were located in different geographies (U.S., French, and German), which have distinctly different Federal and Regulatory governances. The organizations objective for the project was to create a standard process and set of procedures that would allow the company to leverage engineering work and workload from across the globe while maintaining customer service excellence. This would be accomplished by utilizing the BusinessGenetics' proprietary BML modeling methods and tools.

THE SOLUTION

The client selected a team of engineers to participate in the project as Subject Matter Experts (SMEs). The selected engineers represented each relevant discipline as well as each of the three geographies.

The BusinessGenetics team developed an overall context (or framework) model of the current state Global Design Control Process. The team identified numerous areas that required further detail which included: Plan Engineering Design Project, Establish Product Design Requirements, Perform Design Analysis, Validate Design Change Compliance, Manage Technical File, Implement Engineering Change Order and Monitor Fuel Performance. By modeling these processes and gaining consensus from the SMEs for these areas would result in a series Standard Operating Procedures that would govern the Global Design Process.

Project Planning– BusinessGenetics utilized its project planning framework to define the project which resulted in a project model that outlined all of the necessary activities, deliverables, responsibilities, resource estimates and timelines to achieve the defined purpose. This project planning model was then automatically converted into a Microsoft Project Gantt Chart directly from the BusinessGenetics modeling software and data.

Models Developed from Existing Client Documentation – Existing client documentation (Visio flows, procedure docs, etc...) was used to build the initial set of models (WHAT, WHO, WHICH

and HOW) with very limited involvement from the client SMEs. This technique reduced the total project duration by several weeks and kept the SME interaction to a minimum.

Developing Customized Output – The client requested that the process models be converted into their standard procedure document format also known as a Fuel Sector Operating Procedure (FSOP). The BusinessGenetics team was able to capture the FSOP format and map each of the sections to the relevant five dimensions of BusinessGenetics models. For example, the document’s first section included a brief description of the position or group responsible and subsequently listed all of the actors performing work throughout the process.

Information that could not be mapped directly to the five dimensions was captured in a customized profile, called the Also Known As (AKA) profile. For example, there are numerous positions that perform the same job responsibilities but have different titles.

The dimension data and profile mapping was subsequently used as an input into the reporting engine. The reporting engine processed all the information contained in the selected models and created output based on the structure defined in the report, including the dimension data and profile mapping. The report is capable of producing output in HTML, MS Word, or MS Excel.

Hybrid Current State Future State Modeling – Due to a compressed delivery schedule, BusinessGenetics modeling specialists conducted facilitated work-sessions with the SMEs to validate the current state business models in tandem with the creation of the future state models. The current state models, developed from each regions set of procedures, were built first. It became apparent through the validation sessions with the SMEs that there were a number of similarities as well as terminology differences. For each of the differing activities, BusinessGenetics was able to identify the root cause of the disparities through the facilitated sessions. If the activity was different due to regional regulatory requirement BusinessGenetics and the client were required to include those activities, however; if the difference was based on reasoning like “it’s the way we’ve always done it” it was agreed to implement the best practice activity. Additionally, during the work-sessions BusinessGenetics captured and catalogued all of the related and unresolved issues as well as any short/long term opportunities/process wins.

Develop and Execute Solutions – Once the model was complete for each process (referenced above), BusinessGenetics produced the draft version of the FSOP. The draft FSOPs were reviewed by the SMEs to ensure the entire process had been captured and that the FSOP correctly represented the depth and breadth of the process area.

THE RESULT

Although the output of the project appears simple, the path to produce a single global procedure was extremely challenging. Managing three languages, three distinct cultural business approaches and three functional yet different processes presented numerous obstacles, all which could have easily derailed the project. What enabled the project to be successful was the rigor and completeness of the BML methodology and the flexibility of the software tool.

The methodology provided a structure which allowed the group to focus on the components of each process separately. This building block approach revealed the process similarities first and allowed the SME groups to agree the similarities and then collaborate on their differences versus defend them. The BML software tool's flexibility was also critical to the project's success. For example, the tool allowed the team to capture definitions and descriptions of each activity, role, entity and artifact to ensure that mistakes and misinterpretations would not occur during the document translation. Additionally, the ability to manipulate the models in the work-sessions supported the mutual understanding of the future state process.

This process harmonization effort is currently being rolled out and the standardized processes are being implemented in all regions. These processes are currently going through Quality Assurance Review and Translation before being rolled out in a test campaign. This project has allowed senior leadership's long term objective to harmonize and standardize operations while allowing operational flexibility, knowledge sharing and organizational excellence to be achieved.

PROJECT FACTS

The elapsed time of the BusinessGenetics modeling effort was six months and included two work sessions in the U.S. and two overseas locations. The client's resources each contributed an average of seven days to the effort. Eight separate Standard Operating Procedures (SOPs) were created, conceptually agreed upon and sent to Quality Assurance for review and then lastly to the translation team for finalization. The SMEs were elated with the efficiency of the SOP creation process and shared the following:

- "This would normally take a year to create just one global process document."
- "I really like how we have added global definitions that cover all three regions."
- "Sessions were very efficient for developing the SOPs."