

Information model RP life cycle management

OKB “GIDROPRESS” makes good use of up-to-date design and engineering approaches which are based on development and application of the RP information model including an array of data pertaining to the object at the stages of its design and construction providing a means for transmission of the stored information to next stages of RP life cycle.

To manage the life cycle of a product OKB “GIDROPRESS” makes good use of the Siemens Teamcenter system which enables to manage design documentation and requirements for a product, to manage 3D model development, record-keeping of regulatory-reference documentation, data exchange and etc.

The main functional capabilities of the system are:

- ❑ Management of requirements for RP;
- ❑ Management of RP structure;
- ❑ Management of RP documentation;
- ❑ Management of input data for RP thermohydraulic calculation

justification;

- ❑ Data exchange with CAD systems in development of 3D models and drawings;
- ❑ Data exchange with other systems;
- ❑ Management of catalogs and directories;
- ❑ Provision of an access to the Customer;
- ❑ Registration of non-conformances;
- ❑ Information protection.



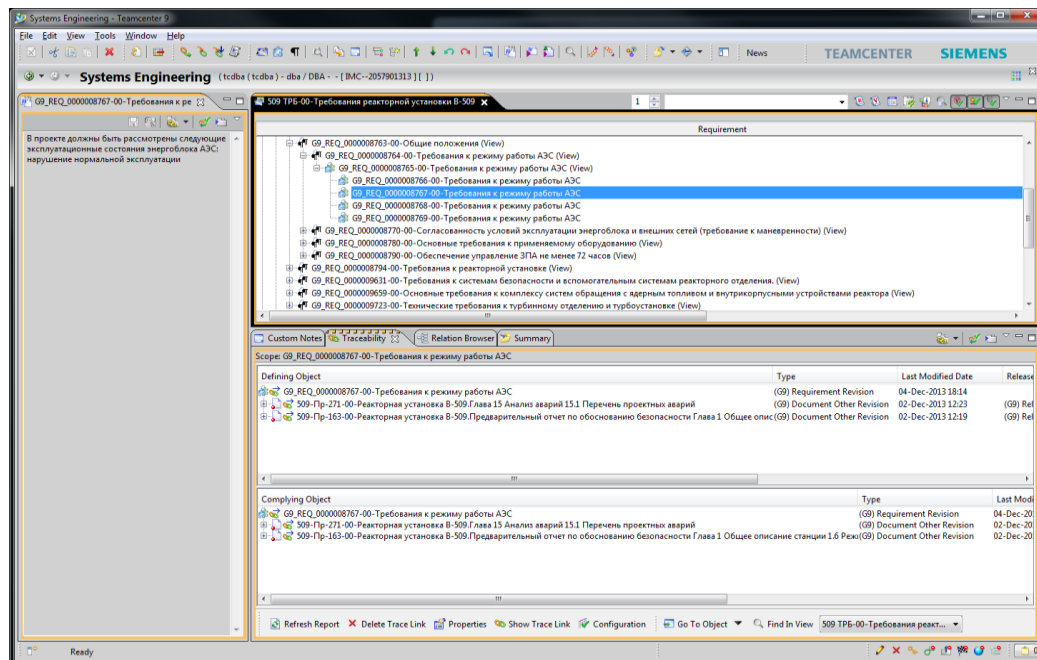
Management of requirements

Management of requirements is realized in a dedicated system module called “System Engineering”.

The main functional capabilities of the system are:

- ❑ Management of requirements (creation, correction, deletion);
- ❑ Management of requirement structure;
- ❑ Creation of tracing links with documents and 3D models wherein the requirements are taken into account;
- ❑ Tracing and analysis of tracing links;
- ❑ Creation of tracing links for a specific place in the Microsoft Word document.

Requirement text



Requirement structure

Traces

Management of RP Structure

Management of RP structure is realized in the dedicated system module “Structure Manager”.

The main functional capacities of the system are:

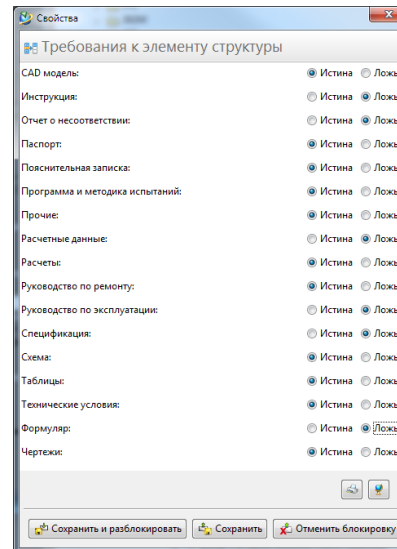
- RP structure management (creation, correction, deletion);
- Management of option characteristics;
- Analysis of the objects linked with a specific structure element.

RP structure is a hierarchy structure that consists of “Structure element” classes.

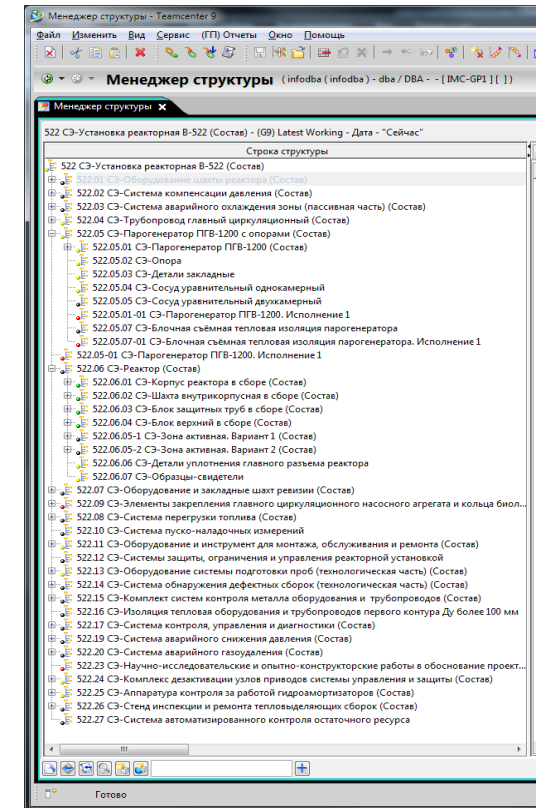
Each structure element has a link with the objects of other classes (documents, 3D models, calculations) that belong to it.

A possibility of creation of a link with a structure element is determined by a special form with a set of parameters.

Form for management of links of the RP structure element



Reactor plant structure

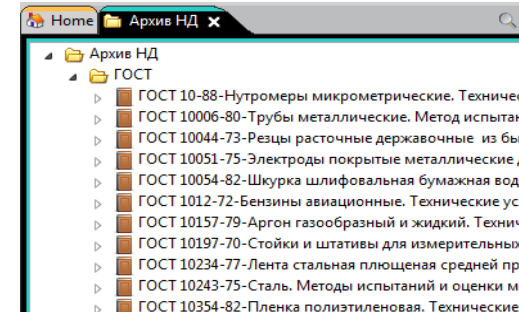
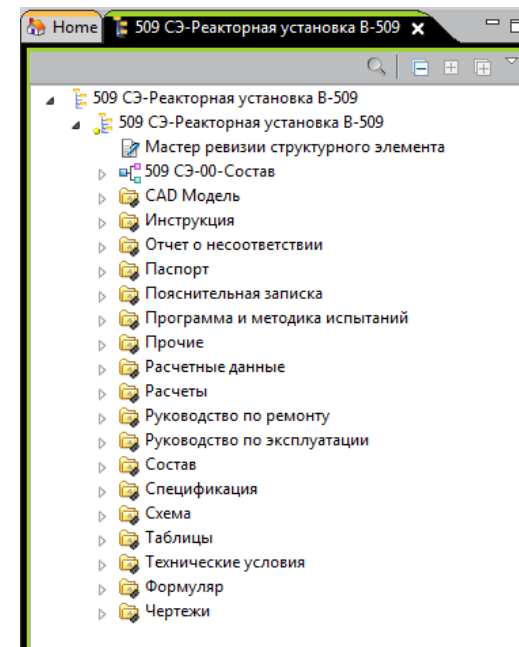


Management of RP Documentation

Types of the Documents stored in the system

| Document Types | | | |
|----------------------------|--------------------|--------------------------|-------|
| Program and Test Procedure | Explanatory Report | Technical Conditions | Other |
| Specification | Calculation | Operation manual | |
| Instruction | Scheme | Registration Certificate | Form |
| Table | Drawing | Repair Manual | |
| Non-conformance Report | | Certifying List | |
| Non-conformance Decision | | Notice Of Change | |

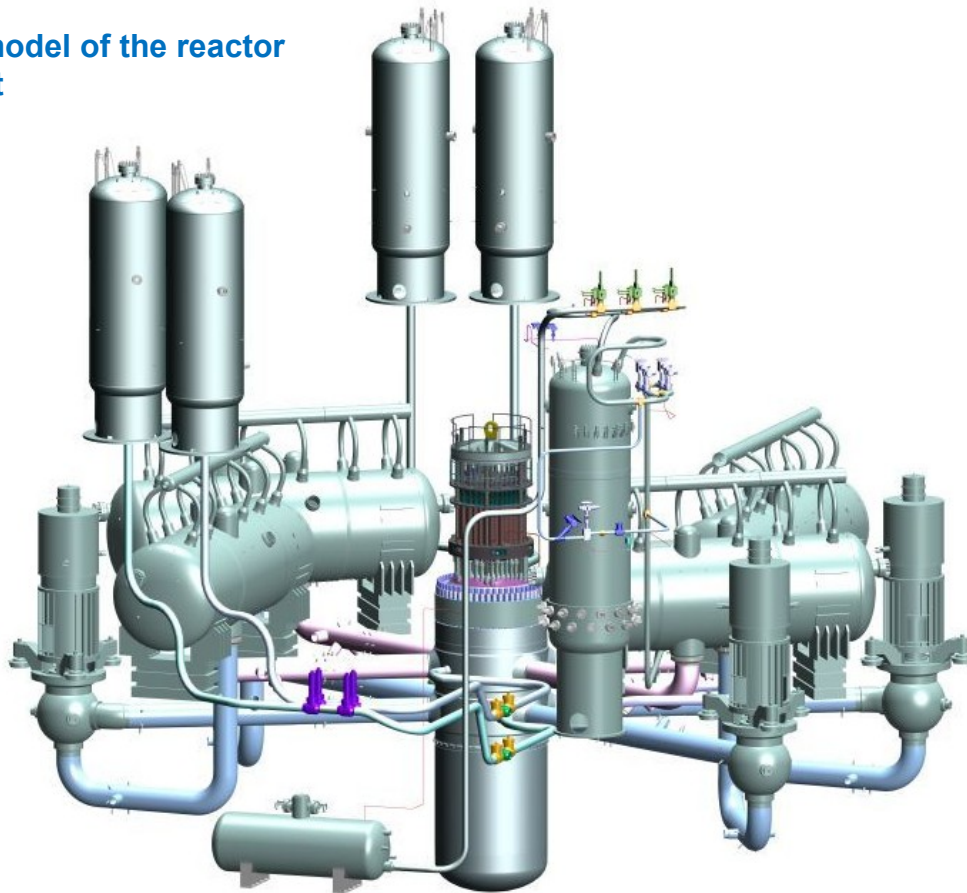
| Reference Documents |
|----------------------|
| Regulatory documents |



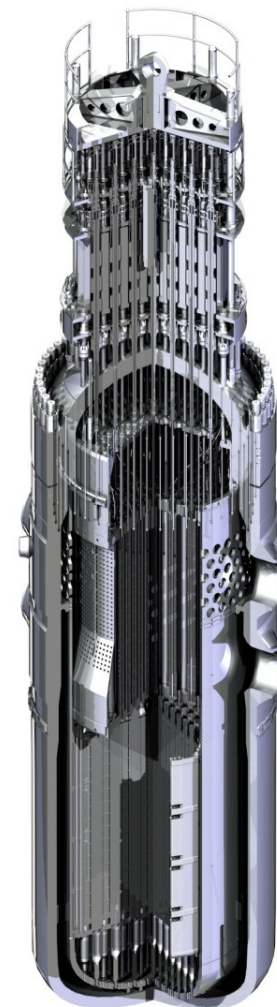
Development of 3D models of equipment

OKB «GIDROPRESS» makes use of SolidWorks CAD for development of 3D models of equipment and associated drawings.

3D model of the reactor plant

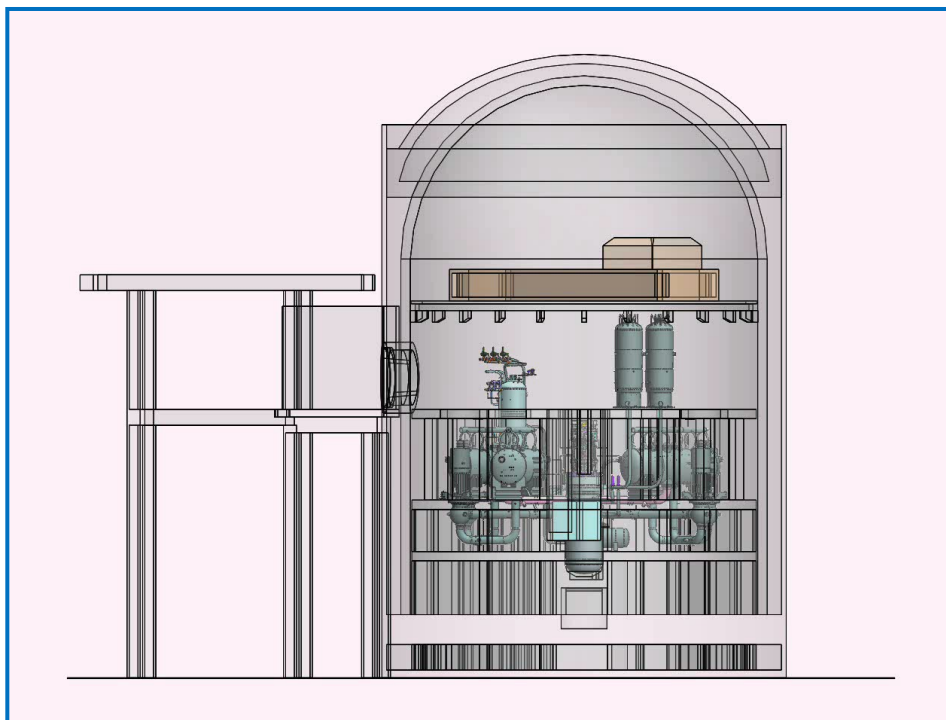


3D model of the reactor

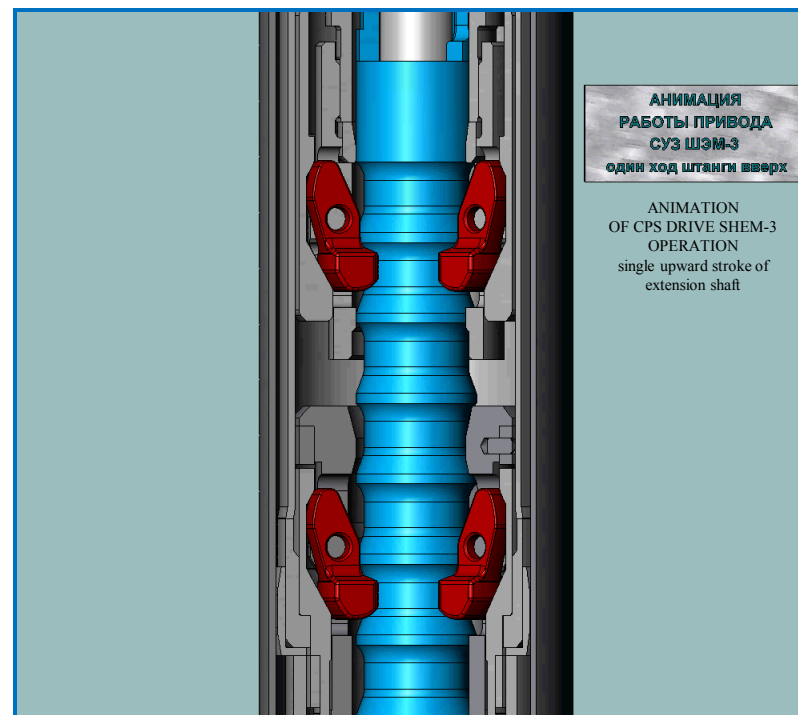


Development of 3D models of equipment

Arrangement of the reactor plant
in building structures



Modeling of operation of the motion
mechanism of CPS drive extension shaft



Management of input data for RP thermohydraulic calculation justification

Management of input data for RP thermohydraulic calculation justification is realized in the modules of the system (“Structure Manager” and “My Teamcenter”).

The main functional capacities of the system are:

- ❑ Management of RP TH calculations (creation, correction, deletion);
- ❑ Linking of TH calculation with a computer module;
- ❑ Linking of TH calculation with a reporting document;
- ❑ Storage of information on TH calculation results;
- ❑ Linking of TH calculation with an object of the calculation.

TH calculation is related to the RP structure that consists of “Structure element” classes.

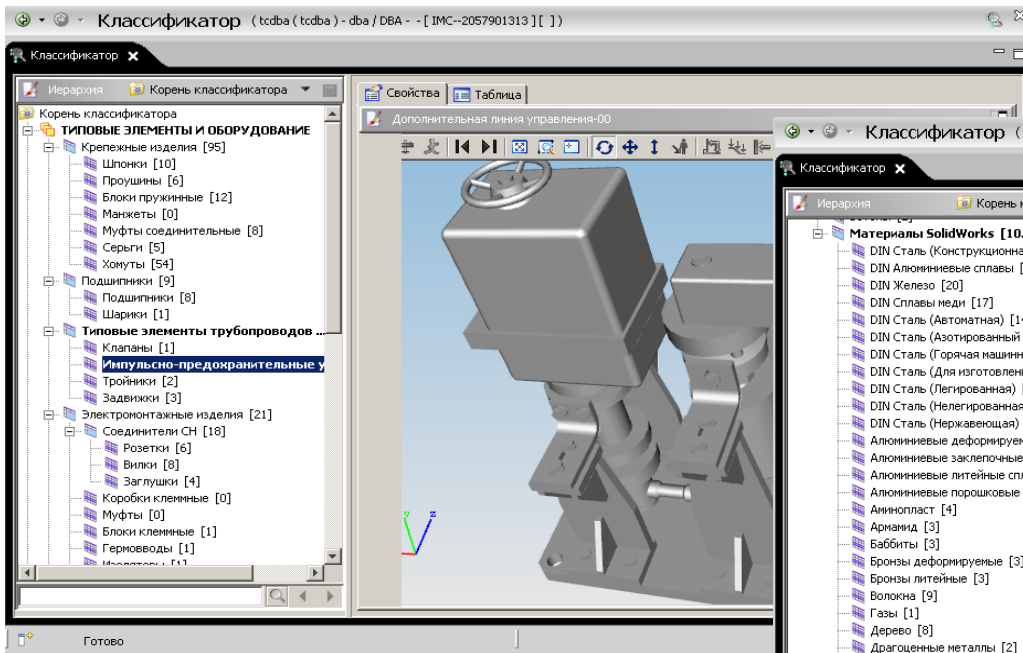
TH calculation contains the files with input deck needed for calculation.

Management of catalogs and directories

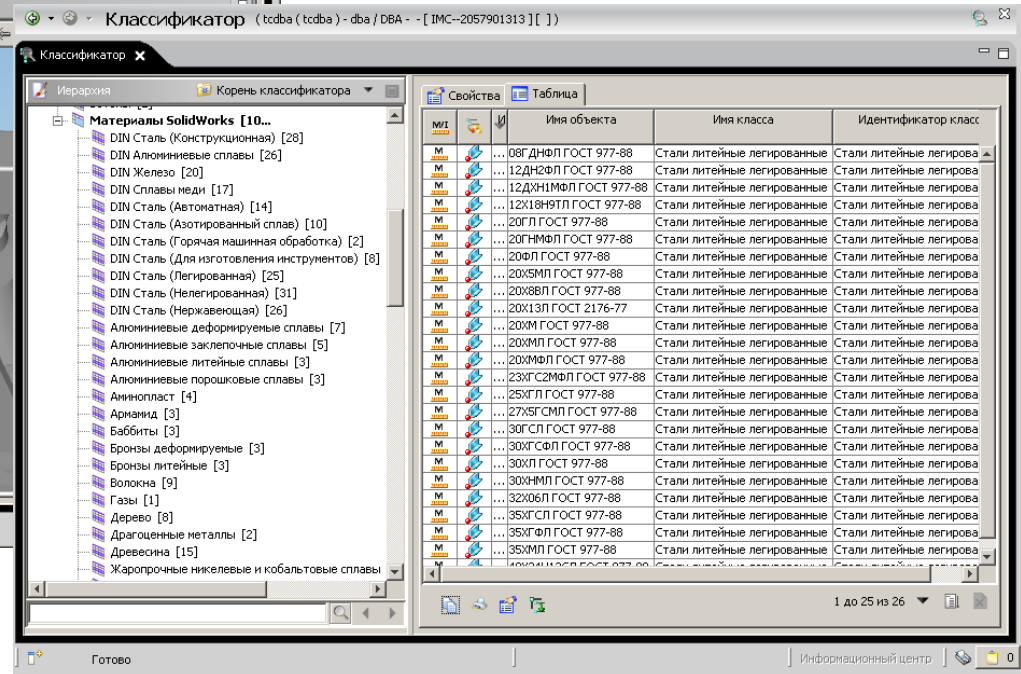
Catalogs of typical and standard components and materials, SolidWorks ToolBox catalog are applied in OKB «GIDROPRESS» to improve and speed up the design process.

Additional software modules are designed for data exchange with SolidWorks CAD.

Catalog of typical components and equipment



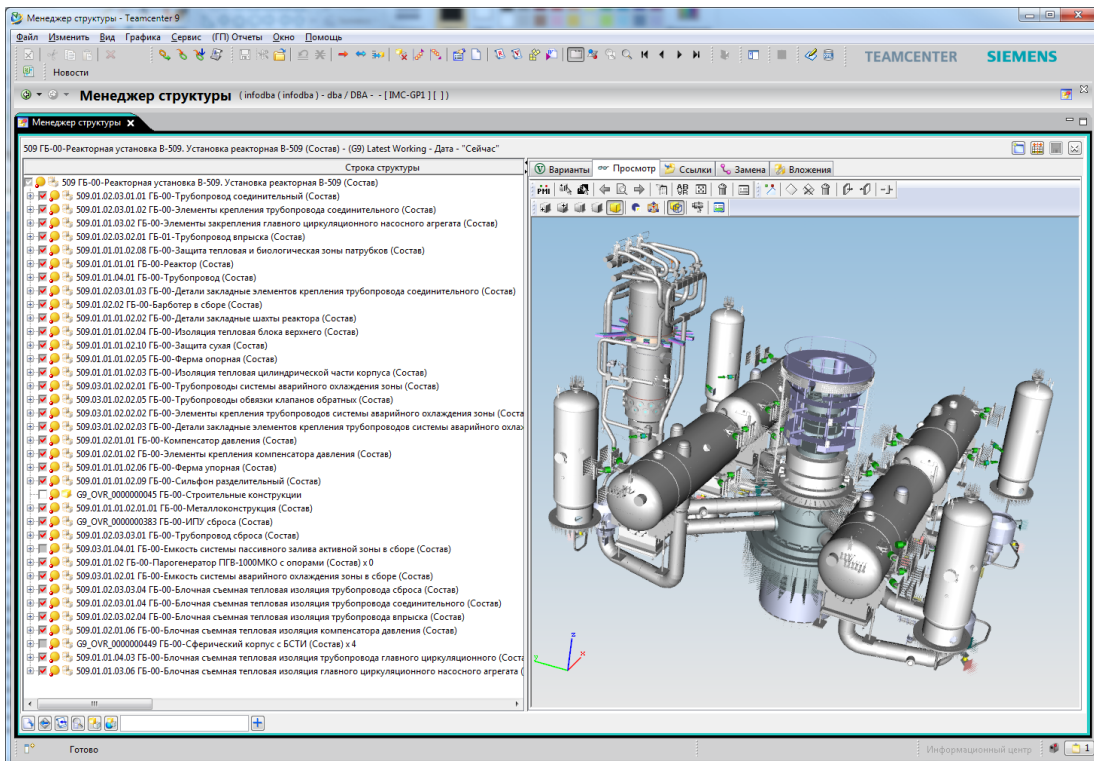
Catalog of materials in the Siemens Teamcenter system



Data exchange with other systems

Data exchange with the system of the General Designer ASE-NIAEP is implemented in OKB GIDROPRESS. Data exchange occurs as to transmission of overall models of equipment and obtaining the data on construction. The created overall models of RP equipment and attribute information to it are transmitted for subsequent loading into the SmartPlant Foundation system.

Overall RP model



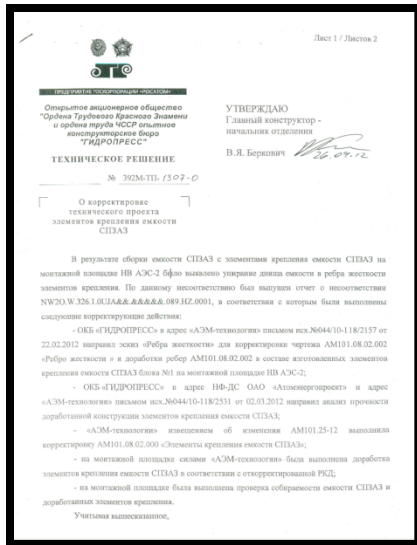
Formed files *.SAT and *.XML

- | | | | |
|--------------|------------------|---------------------|---------------------|
| 10JAA00B001 | 10JEF15BU001 | 10JAH10BU001.SAT | 10JEF15.SAT |
| 10JAA00BQ601 | 10JEF20 | 10JAH10BU002.SAT | 10JEF15BU001.SAT |
| 10JAA00BQ891 | 10JEF20BU001 | 10JAH10BU003.SAT | 10JEF20.SAT |
| 10JAA00BQ892 | 10JEG10BB001 | 10JEA10AC001(1).SAT | 10JEF20BU001.SAT |
| 10JAA00BU001 | 10JNG00BQ621 | 10JEA10AC001(2).SAT | 10JEG10BB001.SAT |
| 10JAA00BU010 | 10JNG00BQ651 | 10JEA10AC001(3).SAT | 10JNG00BQ621.SAT |
| 10JAB11BB715 | 11JNG10BB001 | 10JEA20AC001(1).SAT | 10JNG00BQ651(1).SAT |
| 10JAH10BU001 | 11JNG10BB002 | 10JEA20AC001(2).SAT | 10JNG00BQ651(2).SAT |
| 10JAH10BU002 | 11JNG20BB001 | 10JEA20AC001(3).SAT | 10JNG00BQ651(3).SAT |
| 10JAH10BU003 | 11JNG20BB002 | 10JEA30AC001(1).SAT | 10JNG00BQ651(4).SAT |
| 10JEA10AC001 | 11JNG50 | 10JEA30AC001(2).SAT | 10JNG50.SAT |
| 10JEA20AC001 | 11JNG50BB001 | 10JEA30AC001(3).SAT | 11JNG10BB001.SAT |
| 10JEA30AC001 | 11JNG50BR011 | 10JEA40AC001(1).SAT | 11JNG10BB002.SAT |
| 10JEA40AC001 | 11JNG60 | 10JEA40AC001(2).SAT | 11JNG20BB001.SAT |
| 10JEB10BQ651 | 11JNG60BR001 | 10JEA40AC001(3).SAT | 11JNG20BB002.SAT |
| 10JEB20BQ651 | 11JNG60BR011 | 10JEB10BQ651.SAT | 11JNG50BB001.SAT |
| 10JEB30BQ651 | 12JNG30BB001 | 10JEB10BU001.SAT | 11JNG50BR011.SAT |
| 10JEB40BQ651 | 12JNG30BB002 | 10JEB20BQ651.SAT | 11JNG60.SAT |
| 10JEC10 | 12JNG40BB001 | 10JEB30BQ651.SAT | 11JNG60BB001.SAT |
| 10JEC10BU001 | 12JNG40BB002 | 10JEB40BQ651.SAT | 11JNG60BR011.SAT |
| 10JEC20 | 12JNG70 | 10JEC10.SAT | 12JNG30BB001.SAT |
| 10JEC30 | 12JNG70BR001 | 10JEC10BU001.SAT | 12JNG30BB002.SAT |
| 10JEC40 | 12JNG80 | 10JEC20.SAT | 12JNG40BB001.SAT |
| 10JEF10BB001 | 12JNG80BB001 | 10JEC30.SAT | 12JNG40BB002.SAT |
| 10JEF10BQ001 | 12JNG80BR011 | 10JEC40.SAT | 12JNG70.SAT |
| 10JEF10BQ200 | 10JAA00B001.SAT | 10JEF10BB001.SAT | 12JNG70BB001.SAT |
| 10JEF10BQ661 | 10JAA00BQ601.SAT | 10JEF10BQ001.SAT | 12JNG70BR011.SAT |
| 10JEF10BQ662 | 10JAA00BQ891.SAT | 10JEF10BQ200.SAT | 12JNG80.SAT |
| 10JEF10BR001 | 10JAA00BQ892.SAT | 10JEF10BQ661.SAT | 12JNG80BB001.SAT |
| 10JEF10BU001 | 10JAA00BU001.SAT | 10JEF10BQ662.SAT | 12JNG80BR011.SAT |
| 10JEF10BU002 | 10JAA00BU010.SAT | 10JEF10BU001.SAT | |
| 10JEF15 | 10JAB11BB715.SAT | 10JEF10BU002.SAT | |

Non-conformance Registration

Implementation of non-conformance registration in the Siemens Teamcenter system

Engineering decision



Мастер решения по несоответствию

Имя: 392M.001 TR | Описание: | Статус выпуска: Тип: Мастер решения по несоответствию

Свойства

- Идентификатор: 392M.001 TR
- Наименование: Решение по несоответствию
- Полное наименование: О корректировке технического проекта элементов крепления ёмкости СП3АЗ
- Формат: A4
- Количество листов: 1
- Решение по корректировке: 392M-ТП-1307-О
- Корректируемые документы: 392M.21.02 ВО
- Учёт в проектах:
- Срок внесения изменений:
- Организация: ГИДРОПРЕСС
- Принадлежность: Собственный
- Тип подписи: "Живая"

Комментарий:

Согласно Техническому решению 392M-ТП-1307 -О проведены корректирующие действия на монтажной площадке НБ АЭС-2, выполнен анализ прочности доработанной конструкции элементов крепления ёмкости СП3АЗ, откорректирована РКД АМ101.08.02.000 "Элементы крепления ёмкости СП3АЗ" (извещение об изменении АМ101.25-12), предусмотрена корректировка документации технического проекта на элементы крепления ёмкости СП3АЗ Элементы крепления ёмкости системы пассивного залива активной зоны. Чертеж общего вида, 392M.21.02 ВО

Владелец: infodba (infodba)
Идентификатор группы: dca

Последние изменения внесены: infodba (infodba)

Заблокирован:
Заблокировал: Нет значения

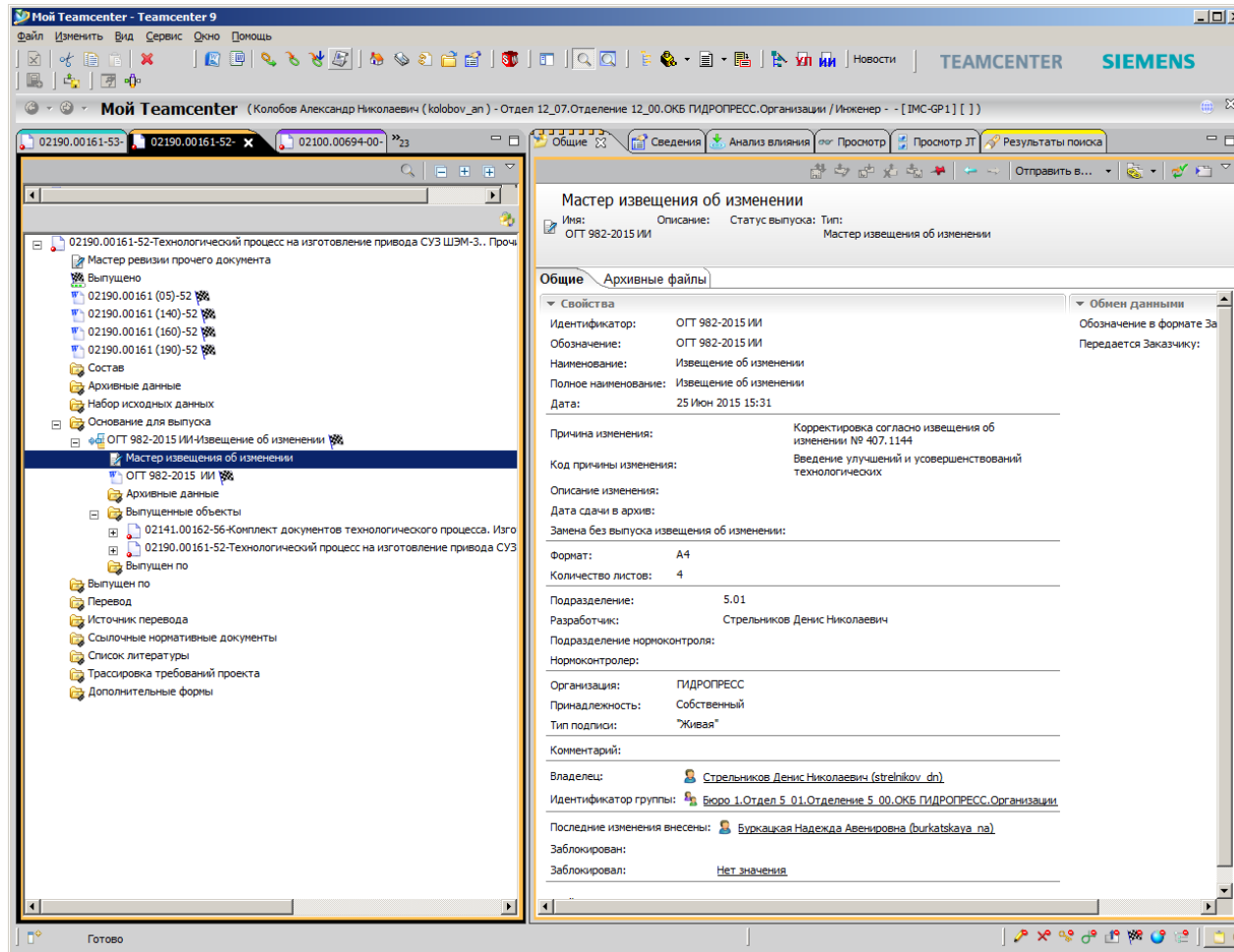
Свойства...

Description of non-conformance decision

Record-keeping of process documentation

Implementation of registration of changes in process documentation.

Inspection of manufacturing process of CPS drive SDEM-3



No. of Notice of change, reasons for change, designer.

Information protection

The information is protected both at the domain level and at the system level. Access is provided via an account with a password. Each user possesses the certain powers limited both for view and for editing.

