Global ICT

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| --- |
|  |
| Carga datos de embalse Guavio medida rio Batatas desde Interfaz INGEN a GREPORTING Power Generation |
| SM200-Project Plan & Cost Estimation |
|  |
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| Written by: | Michael Andres Bonilla Ramirez | 12/11/2019 |
| Verified by: |  |  |
| Approved by: | Juan Camilo Atencia | 13/11/2019 |

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| --- | --- | --- | --- | --- | --- | --- |
| **Project Info** | | | | | | |
| **ICT Legal Entity** | | |  | Legal entity in which the budget for the investment is allocated. | | |
| **Business Legal Entity** | | |  | Business Legal Entity the project belongs to | | |
| **Business Area** | | |  | Business Area the project belongs to | | |
| **Geographical Area - Region** | | |  | Region of the project. | | |
| **Geographical Area - Country** | | |  | Country/countries affected by the project. | | |
| **Cost Category** | | | Growth |  | | |
|  | Chose a Level 1 / Level 2 Category | | |
| Run |  | | |
|  |  | | |
| **APM Code** | | |  | Application code defined in APM | | |
| **Applicant** | | |  | With this driver, the source for the initiative set up is identified. Choosing between internal or business initiatives, implies that actors will be different and/or involved differently in the initiative set up and development. | | |
| **Initiative Type** | | |  | Initiative Type is a driver used to evaluate what type of initiative is going to be set up, dependently on the need for an infrastructural or applicative initiative. | | |
| **Development Type** | | |  | Development Type is a driver that differentiates the initiatives based on their intervention perimeter relatively to budget, men days and impact on the overall system. | | |
| **Methodology** | | |  | Methodology used for the project. | | |
| **Incident categorization (Only for Correctives)** | | **Impact** |  | Service downtime impact on the Business, to be estimated considering the potential damage coming from an extended service interruption. | | |
| **Urgency** |  | Maximum elapsed for incident resolution, mostly depends on SLAs and OLAs involved | | |
| **Data Protection Law Appliance** | | |  | Indicate if the solution if subjected to Data Protection Law | | |
| **SoD Appliance** | | |  | Indicate if the solution if subjected to Separation of Duties | | |
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# Definitions, acronyms, abbreviations

*List of definitions of specific terms used in the document or ICT terms that will be also used in further documents. List of Acronyms. Full description of each adopted abbreviation.*

|  |  |
| --- | --- |
| **Acronym** | **Description** |
| *VPN* | *Virtual Private Network* |
| *ICT* | *Information and Communication Technology* |
| *IDS* | *Intrusion Detection System* |
| *WLS* | *WebLogic Server* |
| *Windows XP SP2/SP3* | *Windows XP Service Pack2/Service Pack 3* |
| *IE8* | *Internet Explorer 8* |
| *SOA* | *Service-Oriented Architecture* |
| *SAP RFC* | *SAP Remote Function Call* |
| *SAP IDOC* | *SAP Intermediate Document* |
| *SAP JCO* | *SAP Java Connector* |
| *SOAP* | *Simple Object Access Protocol* |
| *XML* | *eXtensible Markup Language* |
| *ETL* | *Extraction, Transformation and Loading* |
| *WS* | *Web Service* |
| *IPAL* | *Inspección De Seguridad Industrial y Ambiental Protección a la Vida y a la Salud* |

Table 2 – Definitions, acronyms, abbreviations

# Glossary

*List of definitions used in this document.*

|  |  |
| --- | --- |
| **Term** | **Meaning** |
| *Functional diagram* | *Structured representation of the functions (activities, actions, processes, operations) within the system or one of its parts.*  *The model aims at facilitating the identification of information needs and helping to recognize opportunities.* |
| *Component diagram* | *Diagram which has the purpose of representing the internal structure of the software system modeled in terms of its main components and the relationships between them.*  *A component is a software unit with a distinct identity, as well as distinct responsibility and well-defined interfaces.* |
| *Deployment diagram* | *Diagram which describes a system in terms of hardware resources, nodes, and relationships between them.*  *Often there is a diagram showing how the software components are distributed with respect to the available hardware resources on the system.*  *In essence, it shows the physical location (deployment) of components in the architecture* |
| *Activity diagram* | *The process view is a way of showing what the system does at a high level from a process prospective, explaining how the small steps within the process fit together, in terms of order and flow of information.* |
| *Use case diagram* | *Diagram representing the actors outside of a system capable of interacting with the system itself. It represents the highest level view of a system.*  *Shows the system as a whole and its input and output to and from external elements.* |

Table 3 – Glossary

# Introduction

En el presente documento se dará a conocer la estimación y valoración del requerimiento presentado en el documento “SM100-User-Requirement-Carga dato Rio Batatas” donde se solicita recibir un nuevo campo desde la Interfaz de INGEN y realizar las adecuaciones necesarias en Greporting para poder visualizar y reportar esta nueva Data.

# Project Description

|  |  |
| --- | --- |
| **ID Requerimiento** | **Descripción** |
| 1 | Modificación del Consumo de la Interfaz de INGEN para recibir el nuevo campo: “OPBAGU\_TOT\_DESC\_BAT” |
| 2 | Modificacion Formulario Guavio-Modificacion Tabla base de datos |
| 3 | Modificacion CMI’s: “Hidrologia Oferta Embalses”, “Hidrologia Embalses”. Modificacion Consultas |
| 4 | Desarrollo Log de cargue. |

## Project Description

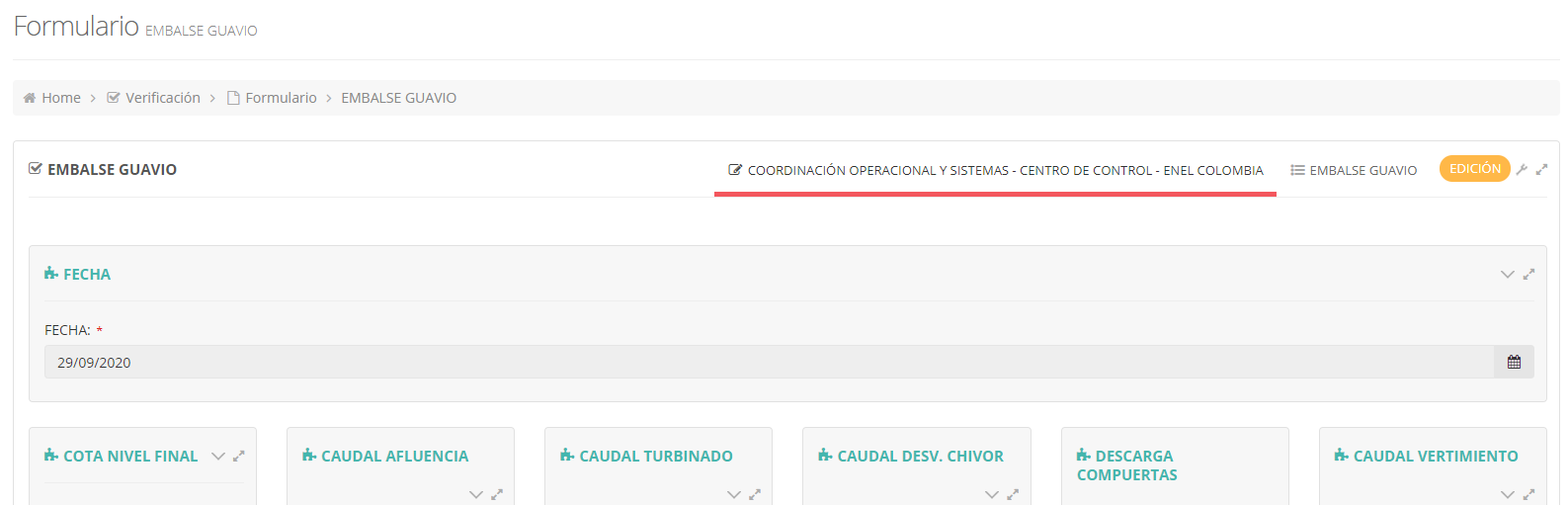
Definicion del Proyecto tomada desde el SM100:

“

Se requiere añadir en GReporting una nueva variable al formulario de Embalse GUAVIO y también desde la Interfaz InGEN “Caudal desviación Batatas” el cual su código externo OPBAGU\_TOT\_DESC\_BAT para que muestre los datos del caudal del rio Batatas en los CMI correspondientes al embalse Guavio.

El formulario donde se debe ajustar el nuevo campo para cargue manual por contingencia es:





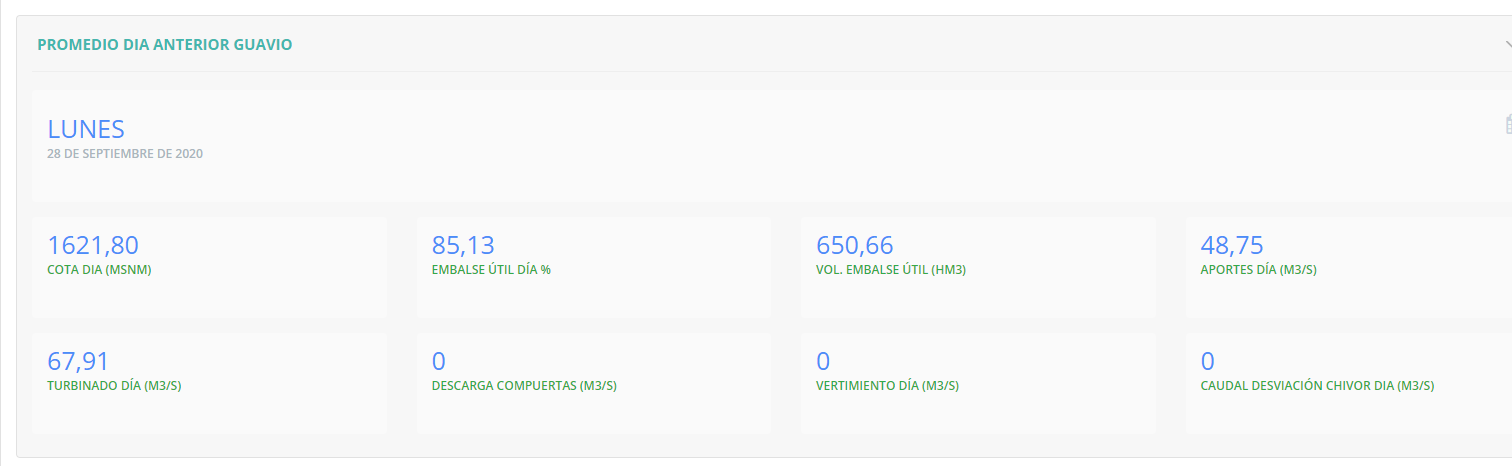
Los CMI donde debe verse reflejado de la interfaz este dato de caudal son:

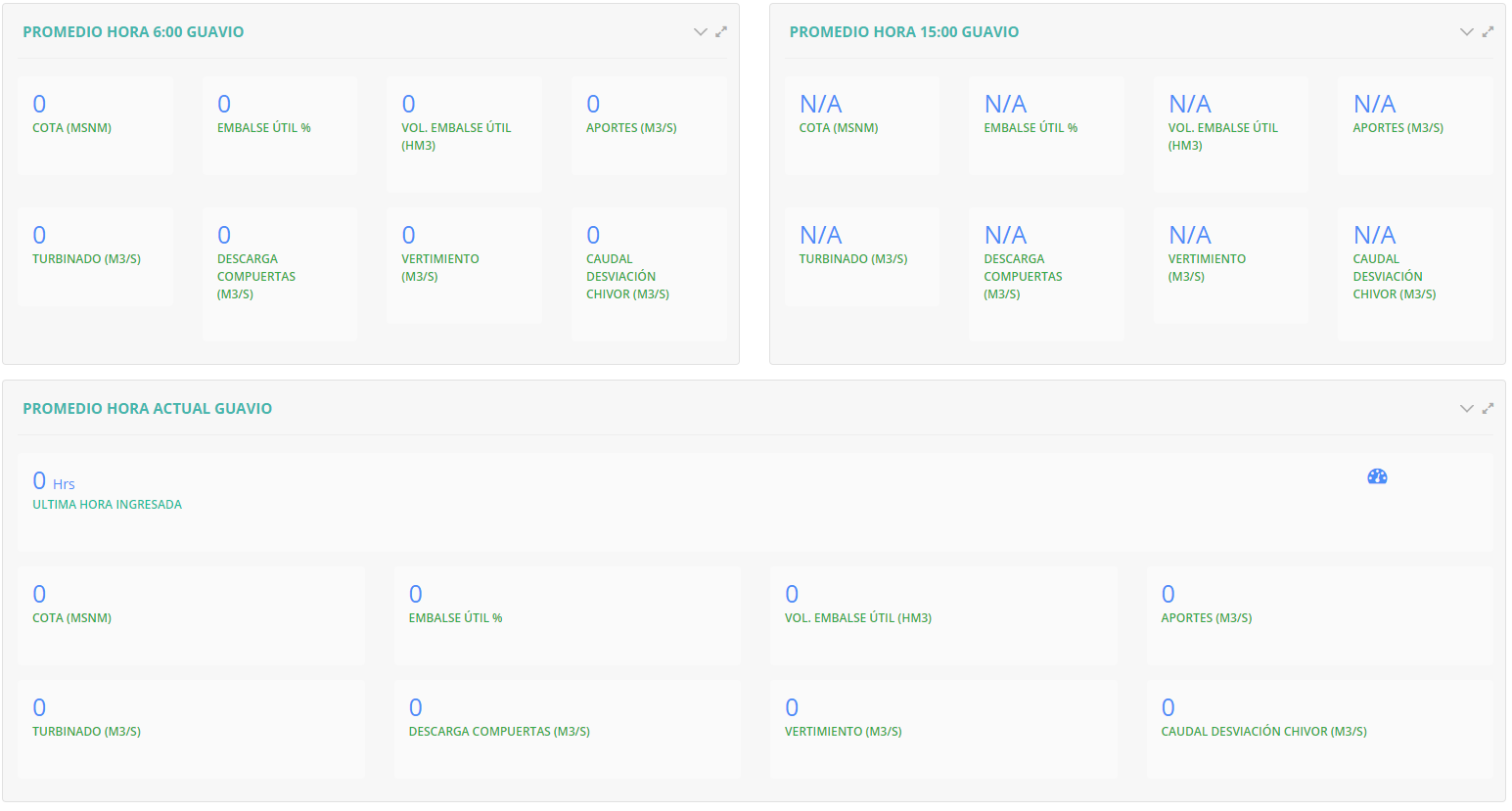


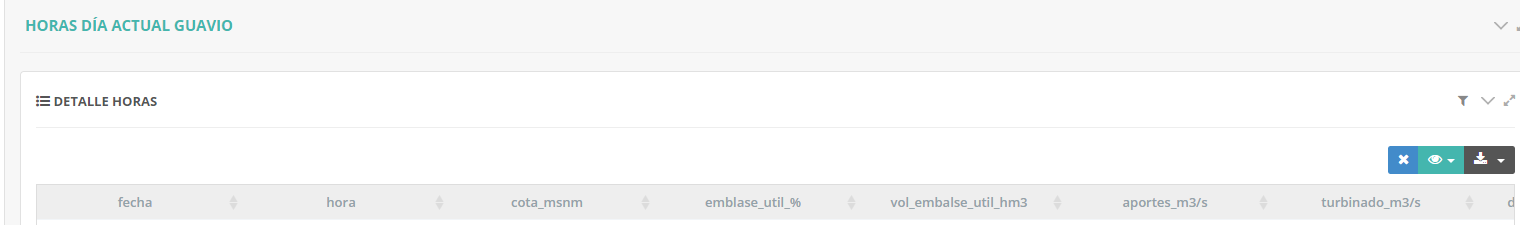


Se debe ajustar un campo para que se muestre este dato:

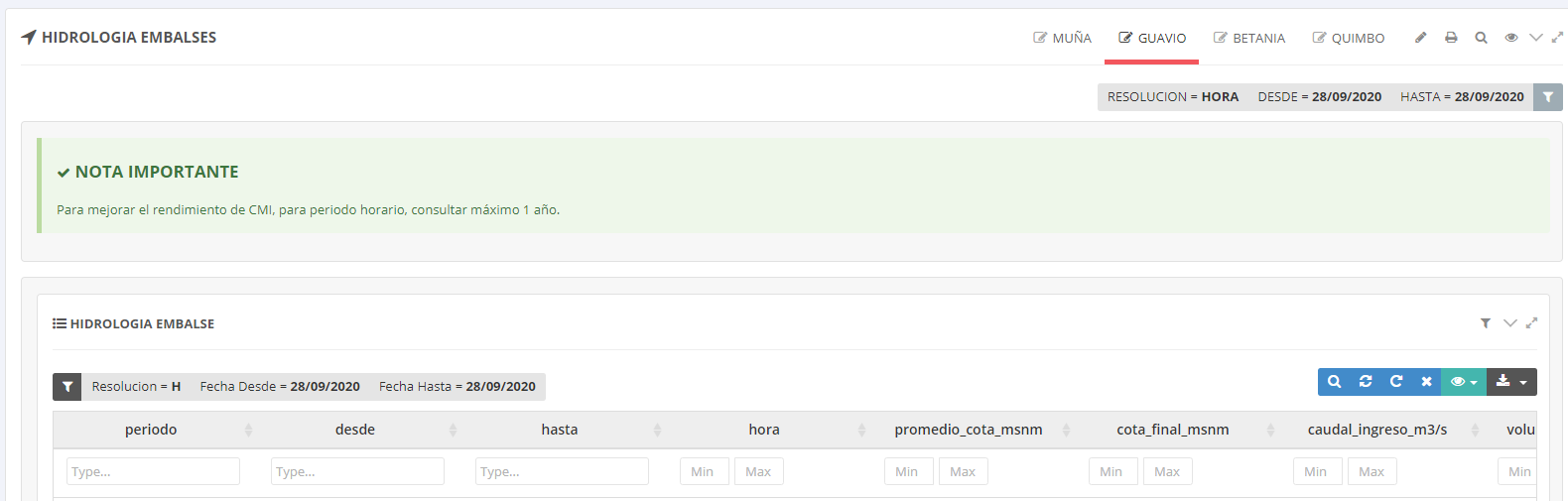




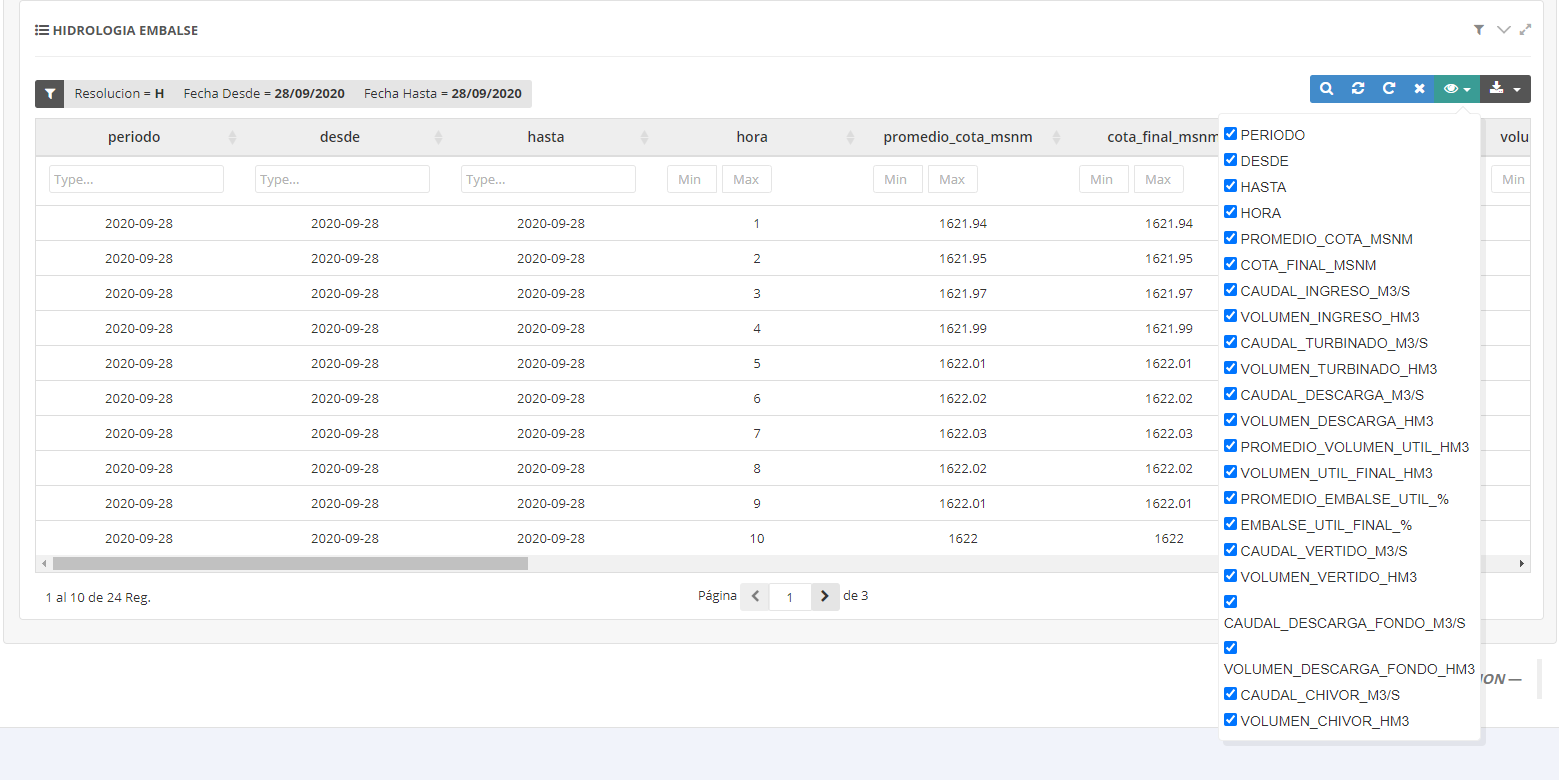


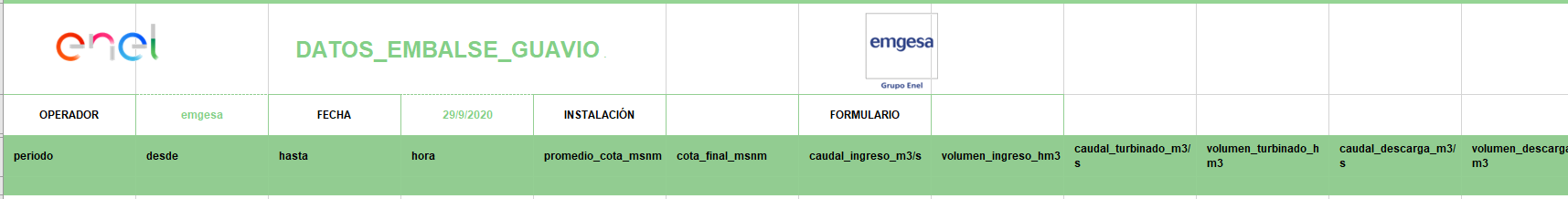


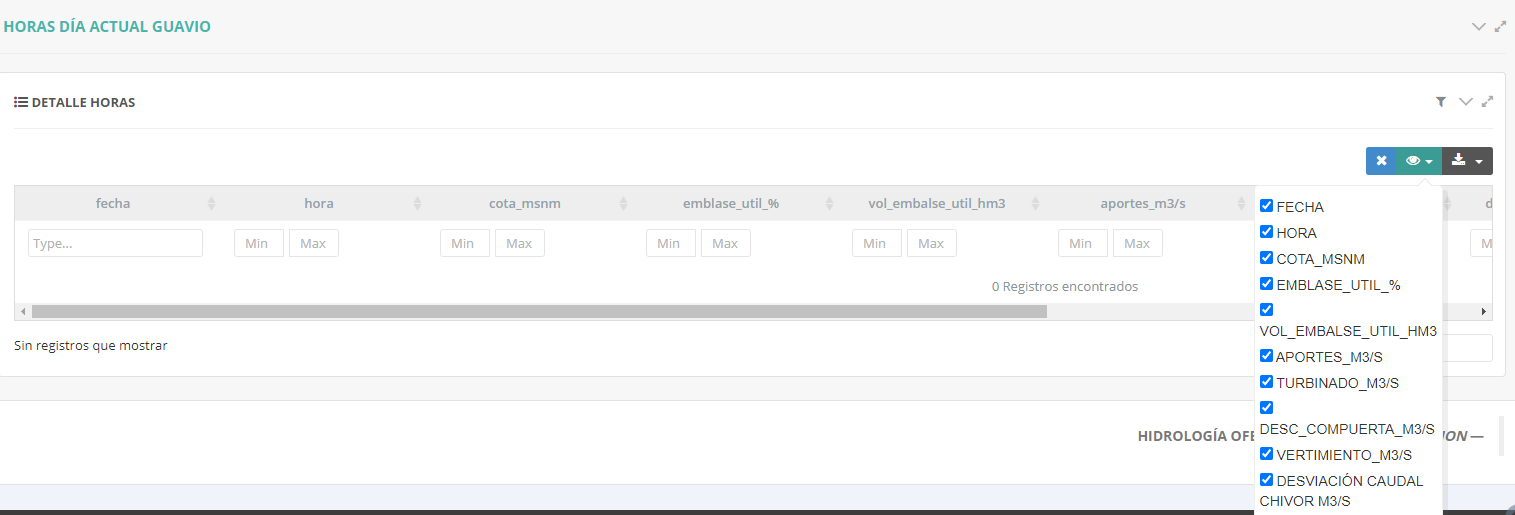




Los reportes donde debe verse reflejado este dato de caudal y de volumen son:







La funcionalidad debe ser:

1. Conectarse a la interfaz del sistema InGEN
2. Incluir la nueva variable de caudal indicada para que pueda traer los datos
3. Incluir la variable en nueva tabla para ir almacenando los datos
4. Incluir este nuevo campo en los CMI de hidrología
5. Incluir el dato en las columnas de los archivos que se extraen los reportes
6. Incluir el campo en el formulario para carga manual por contingencia
7. Antes de almacenar la información, se debe realizar un proceso de validación¿Qué validación, debe estar en un rango?
8. El proceso debe generar un log con los registros procesados con éxito y mostrar la causa de fallo de aquellos que no se almacenaron.
9. Pruebas antes de paso a productivo

”

## Objectives

El objetivo principal es realizar las adecuaciones para que Greporting este en capacidad de recibir, validar y procesar el nuevo campo “Caudal desviación Batatas” proveniente tanto de la interfaz ingen como de los formularios por ingreso manual de parte del usuario.

## Project Scope

* Agregar campo en tabla de Embalse Guavio, adicionarle un nuevo campo: “Caud\_des\_Batatas”, el tipo de dato se validara con el que llegue desde la Interfaz Ingen.
* Modificacion scripts de consumo Interfaz Ingen, para que lean el valor del nuevo campo.
* Validacion de valores del nuevo campo. Pendiente definir que validaciones se requieren, Valor minimo?, Maximo?, obligatorio? .
* Segun las validaciones del punto anterior establecer una politica de Log.
* Modificacion CMI’s listados en el SM100 para que visualicen el nuevo campo en los reportes indicados.
* Modificacion Query’s Greporting para que las consultas incluyan el nuevo campo.

## Project Prerequisites and Constraints

* Se require que desde InGEN se envie el campo identificado con el codigo: OPBAGU\_TOT\_DESC\_BAT.
* Sería necesario validar si en UAT se cuenta con interfaz InGEN para realizar las pruebas.

### Prerequisites

N/A

### Other Constraints

*Other constraints affecting the beginning of the project, such as physical access to building, work stations…*

## Key Success Factors

*Specify the factors identified as necessary to successfully conclude the project. They may be activities, data, procedures, general management concepts… This is not a mandatory section.*

*Example: Scope Management, Deviation Management, Expectation Mangement…*

# Project Planning and Phases

## Methodology

* Reuniones internas diarias.
* Reuniones con usuario semanal entregando los MPV
* Informar avances por correo electronico o otros medios al cliente.
* Implementacion en UAT
* Aprobacion para paso a PRO por parte del usuario.

## Project Phases and Milestones

*Describe the activities within each phase of the project. This is a mandatory section.*

|  |
| --- |
| Nombre de tarea |
| **Carga Rio Batatas** |
| **Organización de proyecto** |
| Análisis de requerimientos y definición de arquitectura |
| Revisión y Aprobación de SM200 Project Plan and Cost estimation |
| Kick-off del proyecto |
| Gestión |
| **SPRINT 1: Modificación formulario Guavio** |
| HU2 Modificación formulario Web |
| **SPRINT 2: Modificación CMIs** |
| HU4 Modificación CMI Hidrología Oferta Embalse |
| HU5 Modificación CMI Hidrología Embalses |
| **SPRINT 3: Modificación Consumo interfaz EnGEN** |
| HU5 Modificación Consumo Interfaz InGEN |
| Desarrollo Log de Carga Consumo |
| **Cierre Carga Rio Batatas** |
| Retrospective |
| Acta de Cierre |
| Aprobación final |

Table 4 – Phases and Activities of the project

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre de tarea | Duración | Comienzo | Fin |
| **Carga Rio Batatas** | **23,88 días** | **mar 29/09/20** | mar 3/11/20 |
| **Organización de proyecto** | **8 días** | **mar 29/09/20** | **jue 8/10/20** |
| Análisis de requerimientos y definición de arquitectura | 6 días | mar 29/09/20 | mar 6/10/20 |
| Revisión y Aprobación de SM200 Project Plan and Cost estimation | 2 días | mié 7/10/20 | jue 8/10/20 |
| Kick-off del proyecto | 0 días | jue 8/10/20 | jue 8/10/20 |
| Gestion | 10 días | vie 9/10/20 | vie 23/10/20 |
| **SPRINT 1: Modificacion formulario Guavio** | **2 días** | **mar 13/10/20** | mié 14/10/20 |
| HU2 Modificacion formulario Web | 2 días | mar 13/10/20 | mié 14/10/20 |
| **SPRINT 2: Modificacion CMIs** | **6 días** | **jue 15/10/20** | **jue 22/10/20** |
| HU4 Modificacion CMI Hidrologia Oferta Embalse | 3 días | jue 15/10/20 | lun 19/10/20 |
| HU5 Modificacion CMI Hidrologia Embalses | 3 días | mar 20/10/20 | jue 22/10/20 |
| **SPRINT 3: Modificacion Consumo interfaz EnGEN** | **6 días** | vie 23/10/20 | vie 30/10/20 |
| HU5 Modificacion Consumo Interfaz InGEN | 4 días | vie 23/10/20 | mié 28/10/20 |
| Desarrollo Log de Carga\_Consumo | 2 días | jue 29/10/20 | vie 30/10/20 |
| **Cierre Carga Rio Batatas** | **0,5 días** | **mar 3/11/20** | **mar 3/11/20** |
| Retrospective | 4 horas | mar 3/11/20 | mar 3/11/20 |
| Acta de Cierre | 0 días | mar 3/11/20 | mar 3/11/20 |
| Aprobación final | 0 días | mar 3/11/20 | mar 3/11/20 |

Table 5 – Milestones of the project

## Project Planning

*Diagram with all the activities, deliverables and milestones of the project. A Gantt Diagram is proposed, but any diagram showing the most relevant information of planning of the project can be used. A file generated with a project management software can also be embedded. This is a mandatory section.*

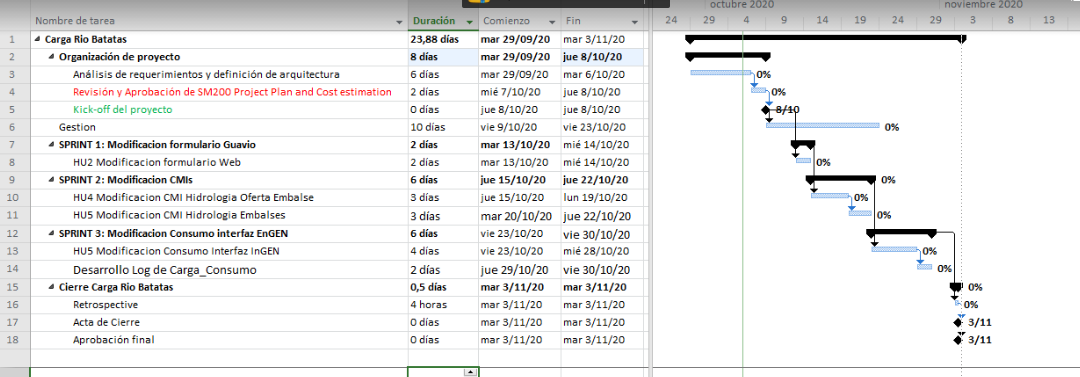


Figure 1 – Gantt Diagram

## Material and Technological Resources

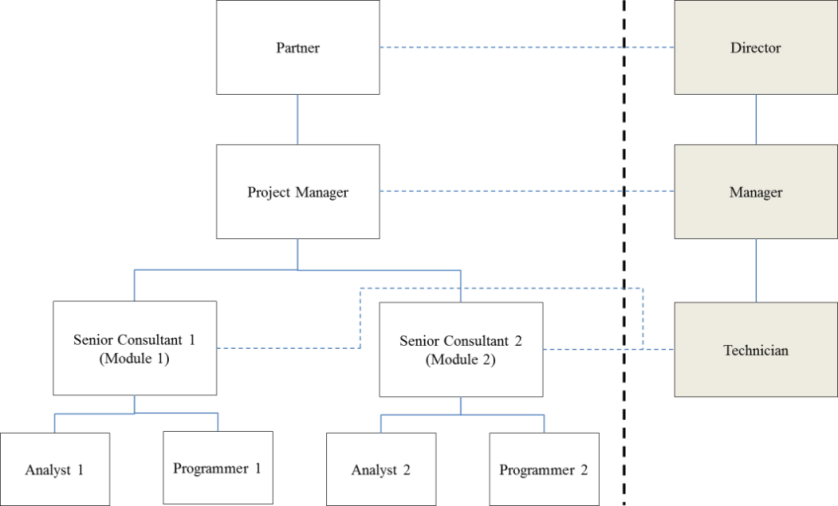
*List of material and technological resources required for successful completion of the project. Example of material resources: rooms, work stations, access to facilities… Example of technological resources: internet access, new software licenses, databases, servers… This is a mandatory section.*

|  |  |  |
| --- | --- | --- |
| **Resource** | **Description** | **Iteration Nº** |
| Web Service EnGEN | Servicio Web fuente de la información. | *x* |

Table 6 – Material Resources

## Work Team / Roles and Responsibilities

*Describe the different roles and functions for each of the work team members. Both external and internal teams should be detailed. It could contain an organigram of the teams.*



EXAMPLE

Figure 2 – Organigram (example)

## Cost Estimation

A continuación se describen las actividades y precios considerados para la implementación de la solución descrita en el detalle de los objetivos descritos anteriormente.

|  |  |
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| **Tasa/Día COP$** | **$ 479.754,08** |

|  |  |  |
| --- | --- | --- |
| Nombre de tarea | Costo | Duración |
| **IPAL API** |  |  |
| **Organización de proyecto** | **$ 5.757.048,96** | **9 días** |
| Análisis de requerimientos y definición de arquitectura | $ 5.757.048,96 | 6 días |
| Revisión y Aprobación de SM200 Project Plan and Cost estimation | $ 0,00 | 3 días |
| Kick-off del proyecto | $ 0,00 | 0 días |
| Gestion | $ 4.797.540,80 | 50 días |
| **SPRINT 1: Modelo de datos** | **$ 9.595.081,60** | **10 días** |
| HU1 Crear modelo de datos en PostgreSQL | $ 3.838.032,64 | 4 días |
| HU2 Crear modelo de datos en SharePoint | $ 2.878.524,48 | 3 días |
| HU3 Migracion de datos existentes en PostgreSQL | $ 2.878.524,48 | 3 días |
| **SPRINT 2: Aplicación Movil** | **$ 9.595.081,60** | **10 días** |
| HU4 Desarrollo en PowerApps de IPAL API | $ 9.595.081,60 | 10 días |
| **SPRINT 3: Reportes 1-6** | **$ 9.595.081,60** | **10 días** |
| HU5 Reprtes según prioridad (6) | $ 9.595.081,60 | 10 días |
| **SPRINT 4: Interfaz Ipal-Greporting** | **$ 9.595.081,60** | **10 días** |
| HU6 Intezfas Greporting/IPALAPI | $ 9.595.081,60 | 10 días |
| **SPRINT 5: Reportes 7 - 12** | **$ 9.595.081,60** | **10 días** |
| HU7 Reprtes según prioridad (6) | $ 9.595.081,60 | 10 días |
| **Cierre de IPALAPI** | **$ 719.631,12** | **0,5 días** |
| Retrospective | $ 719.631,12 | 4 horas |
| Acta de Cierre | $ 0,00 | 0 días |
| Aprobación final | $ 0,00 | 0 días |

|  |  |  |
| --- | --- | --- |
| **Total Esfuerzo** | **59,5 días** |  |
| **Total Neto (sin IVA)** |  | **$ 59.249.628,88** |

Table 9 – Cost Estimation

## Change Management

*This table helps manage the different changes in the requirements of the project.*

| **Change Name** | **Requested by** | **Request Date** | **Hours Estimation** | **Comments** |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 10 – Change Management

## Conceptual Solution

*Detailed description of the technological architecture of the application. Describe the technological elements within the scope of the project.*

# Documentation Plan

*List of Solution Management deliverables. Indicate which deliverables need to be drafted as well as due dates and people in charge.*

*List of deliverables:*

* *Risk Analysis Doc.*
* *User Requirement Doc.*
* *Project Plan & Cost Estimation Doc.*
* *Architectural Blue Print*
* *Functional Design Doc.*
* *UAT Document*
* *Technical Design Doc.*
* *Package Installation Manual*
* *Operating Manual*
* *User Manual*
* *User Acceptance Test Result*
* *Monitoring Manual*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project/Subproject:** | | | | |
| **Deliverable Name** | **Comment** | **Responsible** | **Delivery Due Date** | **Validation Due Date** | |
|  |  |  |  |  | |
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Table 11 – Deliverables

# Communication, Monitoring and Control Plan

*Only applicable to standard projects. Describe communication-level interrelations to be maintained between the different resources of the project. For example:*

* *Kick-off meeting*
* *Project Plan Presentation*
* *Milestone Approval Communication*
* *Periodic Monitoring Meetings*
* *Project Closure Communication*
* *Etc.*

*Provide a detailed description of the different meetings to be held during the project, the communication process and coordination of other projects in parallel.*

|  |  |  |
| --- | --- | --- |
| **Committee/Meeting** | | |
| **Name** | **Affected Profiles** | **Periodicity** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Table 12 – Meetings

# Training Plan

*Describe the Training Plan: intended users, training needed, dates and calendar, manual elaboration…*

# Risks Plan

*The objective of this section is to present the risks identified in the project, in order to control and manage them. Specific action will be described so that they can be followed in the event that a given risk occurs. The following table has to be completed:*

* ***Risk Description:*** *brief description of the characteristics of the risk.*
* ***Status****: current status of the risk (active, occurred, expired).*
* ***Detection Date:*** *date the risk was detected.*
* ***Risk Impact:*** *in order to determine the severity and magnitude of the occurrence of a risk. Possible values are:*
* *High.- It does not allow the service or project to continue.*
* *Medium.- It allows the service or project to continue but has to be corrected quickly in order to maintain the continuity.*
* *Low.- It allows the service or project to continue.*
* ***Probability of Occurrence:*** *measures the probability that the risk occurs. Possible values are:*
* *Very High.- The risk has occurred repeatedly in similar projects.*
* *High.- There is a high degree of probability that the risk will occur.*
* *Medium.- Depending on the circumstances the risk may occur.*
* *Low.- The risk seldom occurs.*
* *Very Low.- The risk only occurs under exceptional circumstances.*
* ***Mitigating Action:*** *actions to decrease the probability that the risk will occur.*
* ***Responsible:*** *person in charge of the mitigation of the risk*

*In order to facilitate the risk identification process, most common risks have already been proposed in the table. It is necessary to eliminate the risks that don’t apply to the project and add the risks that are not already written.*

| **ID** | **Risk Description** | **Status** | **Detection Date** | **Probability of Occurrence** | **Risk Impact** | **Mitigating Action** | **Responsible** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ***1*** | *Project cost does not match with initial estimations for this kind of projects* |  |  |  |  |  |  |
| ***2*** | *The established milestones are not aligned with the typical ones for this kind of projects* |  |  |  |  |  |  |
| ***3*** | *The product is not viable (considering the initial cost estimations)* |  |  |  |  |  |  |
| ***4*** | *System development and release planning is not adequate* |  |  |  |  |  |  |
| ***5*** | *Estimated resources for system development and release are not adequate* |  |  |  |  |  |  |
| ***6*** | *Designated budget for system development and release is not adequate* |  |  |  |  |  |  |
| ***7*** | *Defined phases for software development are not known by all the members of the development team* |  |  |  |  |  |  |
| ***8*** | *Defined phases for the project are not adequate for the needs of the project* |  |  |  |  |  |  |
| ***9*** | *Necessary resources for the project are not available or do not have the required skills/characteristics* |  |  |  |  |  |  |
| ***10*** | *The project does not have enough resources/capacity to face adverse events or variations during the development* |  |  |  |  |  |  |
| ***11*** | *There is no coordination between the teams participating in the project. Lack of communication and/or lack of exchange of information* |  |  |  |  |  |  |
| ***12*** | *Low performance of work teams (lack of experience/knowledge)* |  |  |  |  |  |  |
| ***13*** | *The internal human resources needed for the project are not available* |  |  |  |  |  |  |
| ***14*** | *The products obtained during the development of the project do not meet the time and quality requirements* |  |  |  |  |  |  |
| ***15*** | *Contracts with the external resources do not have an appropriate length for the project* |  |  |  |  |  |  |
| ***16*** | *The teams do not have the tools/technologies they need in order to develop and release the system* |  |  |  |  |  |  |
| ***17*** | *Project information and documentation are not managed according to the company’s policies* |  |  |  |  |  |  |
| ***18*** | *Necessary logistics to ensure the quality of the project are not adequate* |  |  |  |  |  |  |
| ***19*** | *There is lack of commitment from top management* |  |  |  |  |  |  |
| ***20*** | *The project is not aligned with the fundamental policies and regulations of the organization* |  |  |  |  |  |  |
| ***21*** | *User and technological requirements are not well expressed and understood by the project teams* |  |  |  |  |  |  |
| ***22*** | *The proposed architecture does not satisfy the defined requirements of needed operating capabilities* |  |  |  |  |  |  |
| ***23*** | *The design of the system does not guarantee interoperability and integration with other systems* |  |  |  |  |  |  |
| ***24*** | *Final users do not approve of the system* |  |  |  |  |  |  |
| ***25*** | *Actions for the spreading of the system across users, Operations, HelpDesk… have not been adequate* |  |  |  |  |  |  |

Table 13 – Risks Plan

# Security Controls

*Detailed description of the activities and resources to ensure that the security policies, standards and regulations of the company are followed*

# Peer-Review Strategy

*If the project will count with internal resources, introduce the Peer-Review strategy to be followed in order to ensure the quality and integrity of the coverage of the different User Requirements. Specific Peer-Review activities should be provided, along with the main responsibilities of each “Peer”. If the project is going to be carried out with external resources, this section appears in the SM100 template. Fill this section only if it applies to the project.*

# Quality Plan

*Detailed description of the activities and resources to ensure that the quality policies, standards and regulations of the company are followed*

# Annexes

*Include any reference document or any other relevant information to be considered.*

# Standards and Tips

*All sections of this template may or may not be filled with information, depending on the nature of the project. Whenever a section does not apply to the project, the user will indicate “Not Applicable” in the body of the section, in order to indicate that the section provides no   
required information for the specific project.  
  
Where possible, the use of the following UML standard diagrams is suggested:*

1. *Use cases diagram*
2. *Component diagram*
3. *Functional diagram*
4. *Activity diagram*
5. *Deployment diagram*

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