
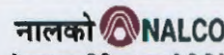




Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID <b>6695-PDM-G00-BD-0001</b>	Contract No. <b>66-6695</b>
	<b>Document Coding</b>			 <b>नेशनल एल्युमिनियम कम्पनी लिमिटेड</b> <b>National Aluminium Company Ltd.</b>
				Rev <b>01</b> Page <b>1</b> of <b>19</b>

<b>tkIS India / Vendor</b>		<b>tkIS India / Owner / Client</b>	
<b>Category Codes</b> (Submission Purpose)	<input type="checkbox"/> 1 For Approval <input type="checkbox"/> 2 For Review / Comments <input type="checkbox"/> 3 For Information <input type="checkbox"/> 4 For Engineering <input type="checkbox"/> 5 For Enquiry <input type="checkbox"/> 6 For Order Placement <input type="checkbox"/> 7 Final & Approved <input type="checkbox"/> 8 Released for Construction	<b>Category Codes</b> (Submission Purpose)	<input type="checkbox"/> 1 For Approval <input type="checkbox"/> 2 For Review / Comments <input type="checkbox"/> 3 For Information <input type="checkbox"/> 4 For Engineering <input type="checkbox"/> 5 For Enquiry <input type="checkbox"/> 6 For Order Placement <input type="checkbox"/> 7 Final & Approved <input type="checkbox"/> 8 Released for Construction
<b>Acceptance Codes</b> (Approval Codes)	<input type="checkbox"/> 1 Approved <input type="checkbox"/> 2 Approved for Manufacturing / Fabrication with Comments as marked <input type="checkbox"/> 3 Not Approved / Resubmit <input type="checkbox"/> 4 Retained for information / Records <input type="checkbox"/> 5 Reviewed <input type="checkbox"/> 6 Reviewed as Noted / Resubmit	<b>Acceptance Codes</b> (Approval Codes)	<input type="checkbox"/> 1 Approved <input type="checkbox"/> 2 Approved for Manufacturing / Fabrication with Comments as marked <input type="checkbox"/> 3 Not Approved / Resubmit <input type="checkbox"/> 4 Retained for information / Records <input type="checkbox"/> 5 Reviewed <input type="checkbox"/> 6 Reviewed as Noted / Resubmit
Remarks for AC2 : This marked-up drawings is hereby approved for fabrication / manufacturing and shall be re-submitted after revision. This drawing should be revised only to the extent of tkIS India / Owner / Client comments. Any other changes made by you will not be considered unless clearly highlighted in covering letter asking for approval.			
This approval / review does not absolve the supplier from the full responsibility for design and fabrication.			
Date : <u>    </u> / <u>    </u> / <u>    </u> Name : <u>                                </u>		Date : <u>    </u> / <u>    </u> / <u>    </u> Name : <u>                                </u>	

01	IFE	Incorporated Process Unit	16.10.2017	AKK	16.10.2017	SNR/PVG	16.10.2017	SJP/WAR	
00	IFR	First Issue	03.08.2017	AKK	03.08.2017	SNR/PVG	03.08.2017	SJP/WAR	-
Rev.	Status	Description	Date	Prepared	Date	Checked	Date	Approved	AC
<div style="display: flex; justify-content: space-between; align-items: center;"> <div>           © Copyright 2015 : All rights reserved            ThyssenKrupp Industrial Solutions (India) Private Limited         </div> <div style="font-size: 2em; font-weight: bold;">Barcode</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">           Category Code : 1         </div> </div>									

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
 thyssenkrupp	<b>Document Coding</b>			 <b>नेशनल एल्युमिनियम कम्पनी लिमिटेड</b> <b>National Aluminium Company Ltd.</b>
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### 1. Scope of Application

NALCO Contract for 1.05 MTPA Alumina Refinery Project in Damanjodi, Odisha, tkIS contract number 66-6695.

### 2. Aim

This procedure describes the document coding system for technical and project administrative documents including correspondence and reports prepared for the above mentioned project.

### 3. Reference

-

### 4. Procedure

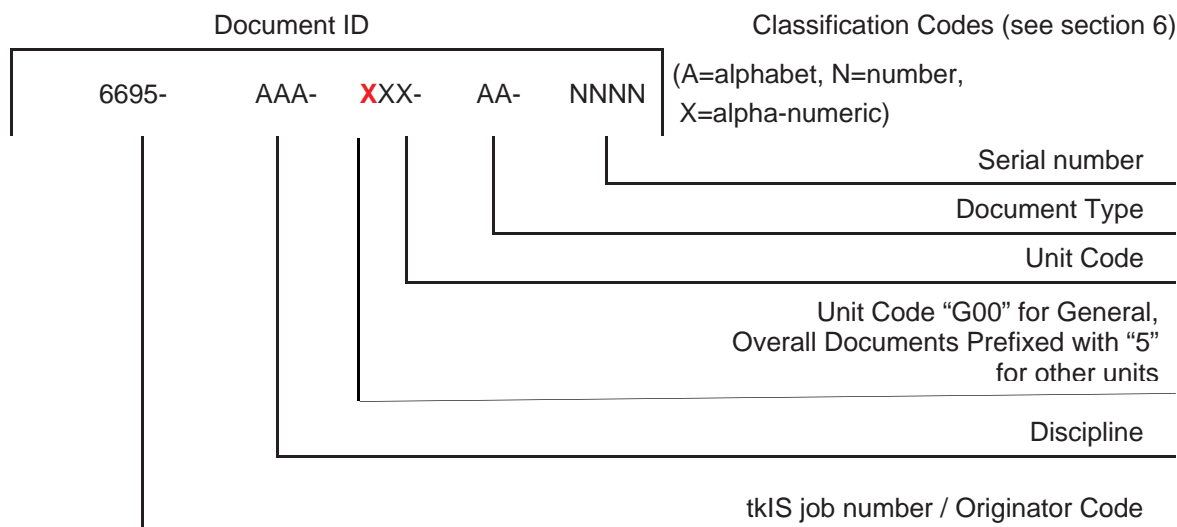
Document codes will be administrated by DMS (Document Management System). Lead Engineers are responsible for correct coding of their documents. They will be supported by the Document Control Manager.



### 5. Definition of Document Identification Code

The document identification codes are shown as document number on the document for reference and traceability.

#### 5.1. Engineering and Management Documents

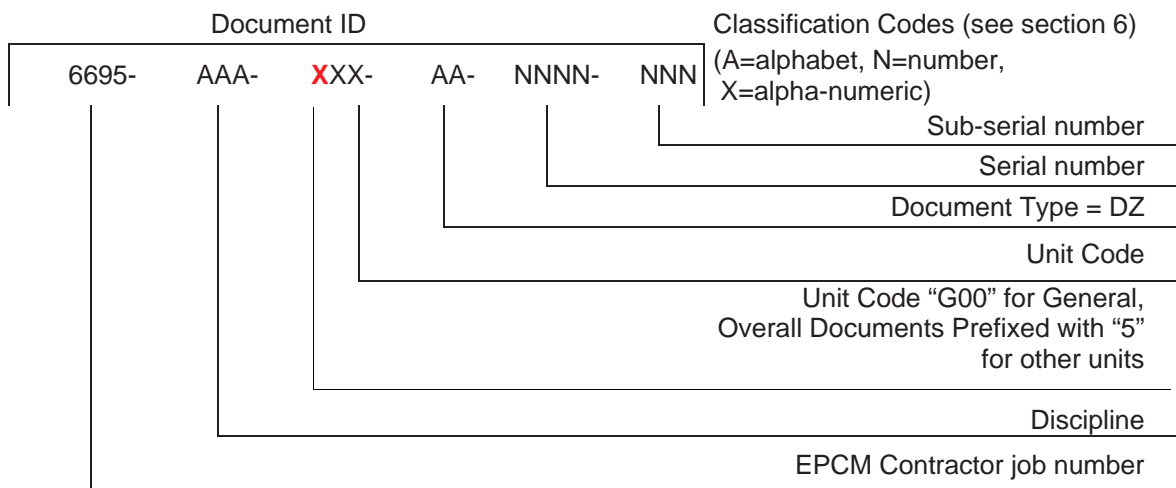
**Document ID for engineering and management documents with unit definition prepared by tkIS or respective EPC / LSTK package contractors.**



Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID <b>6695-PDM-G00-BD-0001</b>	Contract No. <b>66-6695</b>
	<b>Document Coding</b>			 <b>नेशनल एल्युमिनियम कम्पनी लिमिटेड</b> <b>National Aluminium Company Ltd.</b>
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## 5.2. Vendor's Documents (Document Type DZ only)

### Document ID for vendor's / contractor's documents with unit definition



## 6. Codes for Engineering / Vendor Document Identification Number



### 6.1. tkIS job number: 6695

The tkIS job Number is as allocated by commercial department and shall be common for all documents for project execution.

### 6.2. Document discipline code for engineering/vendor documents: (AAA)

A alphabetic code is used to identify the assigned discipline of each document.

PMG	Project management (incl. quality management, commercial management, cost control, engineering management, risk management, change control, claim management, operational spare parts, etc.)
PSC	Project Scheduling
PDM	Project Document Management
	Engineering:
PRC	Process
LAY	Plant Layout
PIP	Piping
EQS	Equipment Static (process vessels), incl. overall
EQM	Equipment Machinery (rotating equipment)
EQP	Equipment Package Units
ELT	Electrical



Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
	<b>Document Coding</b>			 <b>नेशनल एल्युमिनियम कम्पनी लिमिटेड</b> <b>National Aluminium Company Ltd.</b>
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INS	Instrumentation
CVC	Civil Concrete, incl. overall
CVS	Civil Steel
CVA	Civil Architecture
HES	HES design (HES, Noise, Fire Fighting, Authorities Affairs)
HVA	HVAC
PPM	Project procurement management (incl. purchasing, shipping)
IEX	Inspection and Expediting
	On site
CMG	Construction project management (incl. construction engineering, construction site administration commercial site management, construction supervision, etc.)
COG	Commissioning general (incl. pre-commissioning activities, plant commissioning, etc.)

### 6.3. Unit code for engineering/vendor documents: (XX)

#### Process Unit

G00	General, Overall
00	CCR
01	Secondary Crushing
02	Bauxite Grinding
02	Indirect Bauxite Slurry Heating (BSH) & Pre-Desilication
03	Digestion
04	Mud Settling
04	Mud Washing
04	Flocculent Preparation
04	Causticization
05	Tri Calcium Aluminate (TCA) preparation
05	Security Filtration
06	Heat Interchange
06	Hydrate Filtration
07	Precipitation
07	Seed grinding
07	Caustic Cleaning Preparation (included in Precipitation)
07	Hydrate Classification
08	Acid Cleaning Preparation
08	Evaporation
08	Condensate Tankfarm
08	Tankfarm for Evaporation Unit
09	Product Hydrate Filtration
10	Calcination Unit
11	Red Mud Filtration / /
11	Residue Pumping

Plant  1.0 MTPA ALUMINA REFINERY STREAM-5	Client  NALCO	Contract Code  NAL	Document ID  6695-PDM-G00-BD-0001	Contract No.  66-6695
 thyssenkrupp	Document Coding			 नालको <b>NALCO</b> नेशनल एल्युमिनियम कम्पनी लिमिटेड National Aluminium Company Ltd.
				Rev 01Page 5 of 19

11	Cross Country Pipeline Red Mud Pumps to Existing Pond (5 km away)
25	Steam
26	Substation
28	Plant Air and Instrument Air System
30	Fuel Oil Storage (HFO) and Distribution
35	Raw Water Storage
35	Drinking Water Unit
36	Effluent Treatment Plant
36	Sewage Treatment Plant
37	Fire Water Storage
38	Cooling Towers and Cooling Water Distribution
51	Open Storage Yard
52	Bauxite Storage and Handling
53	Hydrate Transfer & Storage
55	Alumina Storage and Handling
56	Lime Preparation (Slaking)
57	Caustic Soda Receipt and Storage
R0X	Piperack
99	Port Facilities-Alumina Storage and Handling
98	Port Facilities-Caustic Storage and Handling

#### 6.4. Document type code: (AA)

See attachment A01.

#### 6.5. Serial number: (NNNN)

The serial number shall consist of four numeric characters and be separated from the sub-serial number (for vendors' documents only) by means of a hyphen. Serial number shall start from 0001 per combination of TKIS job number, discipline and document type code. Leading zeroes to be shown and using of blocks is prohibited.

For vendors' documents the serial number shall be allocated to each TON (as listed in Equipment List) or each purchase order number for the bulk items.

#### 6.6. Sub-serial number: (NNN)

Sub-serial number shall be for document type DZ only, consisting of 3 digits, starting from 001 per Serial number. Leading zeroes to be shown and using of blocks is prohibited.



Examples of documents with serial number and sub-serial number:

6695-EQS-501-EC-0001 - Technical Specification of equipment in 101 prepared by tkIS

6695-LAY-G00-LD-0001 - Overall plot plan prepared by tkIS

6695-EQM-501-DZ-0001-001 - Vendor Document of pump in unit 201



Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID <b>6695-PDM-G00-BD-0001</b>	Contract No. <b>66-6695</b>
	<b>Document Coding</b>			 <b>नेशनल एल्युमिनियम कम्पनी लिमिटेड</b> <b>National Aluminium Company Ltd.</b>
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## 7. Definition of Transmittals, Correspondence and Report Numbers

Document ID					Classification Codes (see section 8)
A-	6695-	AAA(A)-	AAA(A)-	NNNN	(A=alphabet, N=number)
					Serial number
					Recipient
					Originator
					tkIS job number
					Type

## 8. Codes for Transmittals, Correspondence and Report Numbers

### 8.1.1. Type of correspondence/reports: (A)

L	Correspondence (Letter, Fax)
E	Email
T	Transmittal
M	Minutes of meeting
R	Report
N	Notice

### 8.1.2. tkIS-India job number: NNNN(A)

The tkIS job Number is as allocated by commercial department and shall be common for all documents for project execution.

### 8.1.3. Originator/recipient codes for correspondence/report identification number: (AAA)



NAL	National Aluminium Company Limited
PIN	thyssenkrupp Industrial Solutions (India) Private Limited
VEN	Vendors
PINS	thyssenKrupp Industrial Solutions (India) Private Limited Site
RTL	Rio Tinto Alcan International Limited

### 8.1.4. Serial number:

The serial number shall consist of four numeric characters starting from 0001 per combination of type / originator / recipient code. Leading zeroes to be shown. Use of blocks is prohibited.

C-6695-PIN-NAL-0001  
M-6695-PIN-NAL-0001

Correspondence no.1 from tkIS to NALCOFPC  
Minutes of Meeting no.1 between tkIS and NALCO

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
	<b>Document Coding</b>			 <b>नेशनल एल्युमिनियम कम्पनी लिमिटेड</b> <b>National Aluminium Company Ltd.</b>
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T-6695-PIN-NAL-0001

Transmittal no.1 from tkIS to NALCO

## 9. Additional Metadata Attributes

The document metadata attributes are not part of the document number on the document. They shall be shown on the document in order to ensure correct document handling and control.

### 9.1. Revision code: (NN)

A two digit sequential number starting at 00 for the document's first issue.



Each document that has been changed, will get a new revision code before it is released for internal or external distribution.

Within one group of documents (e.g. PIDs) it is allowed to revise one single document only. I.e. that it is not necessary that all documents of one group have the same revision.

### 9.2. Engineering Status Code; (AAA)

This will assigned to each document and represents the achieved status during project phase. The status code is independent of the revision code.

IFR	First Issue	Normally the first issue of a document
IFD	Issued for Design	Issued for Design (documents with reliable information for design)
IFDD	Issued for Detail Design	Issued for Detail Design (documents with reliable information for detail Design, containing main vendor information, HAZOP requirements included)
IFC	Issued for Construction	Issued for Construction (documents containing all the vendor information, used as basis to start the IFC Iso-production, issued to site for construction)
FIN	Final	Final (documents issued to site as final, reflecting the status at the end of detail engineering, containing all the updated information)
ASB	As Built	As Built (documents containing as built information reflecting last changes on site during commissioning)
IFI	Issued for Inquiry	Issued for Inquiry (documents issued to vendors for inquiry)
IFP	Issued for Purchase	Issued for Purchase (documents issued to vendors for purchase)
IFE	Issued for Execution	Issued for Execution (general issue)
CLD	Issued as Cancelled	Issued as Cancelled

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
 thyssenkrupp	<b>Document Coding</b>			 <b>नेशनल एल्युमिनियम कम्पनी लिमिटेड</b> <b>National Aluminium Company Ltd.</b>
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### 9.3. Category Code (CC): (N)

Category Codes are the codes followed to indicate the Document Submission requirements between the Project Partners. (i.e. between Client, TKIS, Vendors, Licensors, Site Contractors etc.)

Following Category Codes to be used for the Project.

- 1 for Approval**
- 2 for Review / Comments**
- 3 for Information**
- 4 for Engineering**
- 5 for Enquiry**
- 6 for Order Placement**
- 7 Final & Approved**
- 8 Released for Construction**

### 9.4. Acceptance Code (AC): (N)


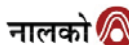
Acceptance Codes are the codes followed to indicate the Document Approval Status confirmed by the Approving Authority between the Project Partners. (i.e. between Client, TKIS, Vendors, Licensors, Site Contractors etc.)

Following Acceptance Codes to be used for the Project.

- 1 Approved**
- 2 Approved for Manufacturing / Fabrication with Comments as marked**
- 3 Not Approved / Resubmit**
- 4 Retained for Information / Records**
- 5 Reviewed**
- 6 Reviewed as noted**

\*\*\*



Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
 thyssenkrupp	<b>Document Coding</b>			 <b>NALCO</b> नेशनल एल्युमिनियम कम्पनी लिमिटेड National Aluminium Company Ltd.
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### Attachment A01: Document type codes

Document types according IEC 61355-1: 2008-04 "Classification and designation of documents for plants, systems and equipment; rules and classification tables".

#### Document Code


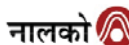
#### Document Subtitle

#### Documentation describing documents

AA	<b>Administrative document</b>
	Administrative document
	<b>Lists (regarding documents)</b>
AB	Document index sheet
AB	List of drawings
AB	Table of contents
AB	Table of contents elect.
AB	Table of contents total
AB	Table of contents total elect.

#### Management documents

	<b>Registers</b>
BA	Document distribution list
BA	List of sub-contractors
BA	List of vendors
	<b>Reports</b>
BB	Accident report
BB	Commissioning report
BB	Damage report
BB	Experience report
BB	Memo
BB	Minutes of meeting
BB	Progress report
BB	Punch list
BB	Site report
	<b>Correspondence</b>
BC	Email
BC	Fax
BC	Letter
BC	Transmittal
	<b>Project control documents</b>
BD	Coordination procedure manual
BD	Project organisation chart
BD	Project summary

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
 thyssenkrupp	<b>Document Coding</b>			 <b>NALCO</b> नेशनल एल्युमिनियम कम्पनी लिमिटेड National Aluminium Company Ltd.
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BD Project/contract notification

BD Work breakdown structure

#### Resource planning documents

BE Status report (cost, dates)

BE Progress report

BE Resource load diagram

BE Time schedule

#### Dispatch, storage and transport documents

BF Bill of loading

BF Certificate of origin

BF Consignment note, waybill

BF Customs documents

BF List of equipment checked for export restrictions

BF Packing list

BF Shipping list

BF Shipping note

BF Shipping specification

BF Storage specification

BF Transport specification

#### Site planning and site organisation documents

BG Plant erection concept

BG Safety and health protection plan

BG Site manual

BG Site preparation drawing

BG Technical specification of warehousing

BG Temporary site facilities arrangement

BG Terms of assignment

#### Documents regarding changes

BH Change order

BH Change request

BH Contract clarification

BH List of order amendments

#### Security documents

BS Emergency instructions

BS Escape and rescue route plan

BS Fire compartment drawing

BS Fire fighting concept

BS Fire protection drawings

BS List of plant emissions



BS Noise abatement summary

BS Noise contour map

BS Noise summary list

BS Site fencing plan

#### Training-specific documents

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
 thyssenkrupp	<b>Document Coding</b>			 <b>नालको NALCO</b> नेशनल एल्युमिनियम कम्पनी लिमिटेड National Aluminium Company Ltd.
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BT Training description

BT Training manual

#### Administration

BZ Car requisition form

BZ Internal work order

BZ Time recording

BZ Travel application

BZ Travel expenses form

#### Contractual and non-technical documents

#### Inquiry, calculation and bid documents

CA Bid

CA Bid cost estimate

CA Bid information

CA Commercial bid evaluation

CA Inquiry / purchase order enclosure

CA Letter of intent

CA List of inquiry packages

CA Scope of services

CA Technical bid evaluation

CA Technical inquiry / purchase order package

#### Approval documents

CB Authority approval document

CB Licence, official permit

#### Contractual documents

CC Acceptance certificate

CC Contract

CC Proof of performance data

CC Terms of delivery

#### Order and delivery documents

CD Deficiency note

CD Delivery note

CD Order confirmation

CD Purchase Order

CD Record of orders

CD Reminder

CD Vendor evaluation


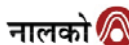
#### Invoice documents

CE Invoice, bill

#### Insurance documents

CF Damage report


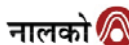
CF Insurance policy

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
 thyssenkrupp	<b>Document Coding</b>			 <b>NALCO</b> नेशनल एल्युमिनियम कम्पनी लिमिटेड National Aluminium Company Ltd.
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<b>Warranty documents</b>	
CG	Certificate of warranty
<b>Expertises</b>	
CH	Expertise, expert opinion
CH	Noise study
CH	Soil investigation report
CH	Soil resistivity survey report / specification
<b>Financial documents</b>	
CZ	Bank guarantee
CZ	Group guarantee
CZ	Letter of credit

#### General technical information documents

<b>Data sheets</b>	
DA	Equipment data sheet
DA	Inspection data sheet
DA	Instrument loop summary
DA	Motor data sheet
DA	Rupture disk data sheet
DA	Safety data sheet
DA	Safety relief valve data sheet
<b>Explanatory documents</b>	
DB	List of consumption figures
DB	Plant description
DB	Process description
DB	Site data
<b>Instructions and manuals</b>	
DC	Analysis instruction manual
DC	Commissioning manual
DC	Erection instructions
DC	Inspection instructions
DC	Machinery manual
DC	Maintenance instructions
DC	Maintenance requirements
DC	Mechanical completion (MC) procedure
DC	Operating description of plant section
DC	Operating instructions
DC	Operating manual
DC	Test run procedure
<b>Technical reports</b>	
DD	Technical report

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
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DE **Catalogues, advertising documents**  
Catalogue

**Technical publications**

DF Patent application  
DF Technical journal  
DF Technical publication

**Vendor documentation**

DZ G01 Process Flow and P&I Diagrams  
DZ G02 Foundation Data / Load Data  
DZ G03 General Arr. Drawings  
DZ G04 Detailed / Sectional Dwgs, Part Lists  
DZ G05 Fabrication Instructions  
DZ G06 Transport Information  
DZ G07 Electrical and Instrumentation  
DZ G08 Special Docs, Catalogues  
DZ G09 Assembly and Erection Instructions  
DZ G10 Operat. and Maint. Instructions  
DZ G11 Fabrication and Inspection Docs.  
DZ G12 Spare Part Lists without Prices  
DZ G13 Lubricants/Feedstocks Lists  
DZ Not part of vendor documentation  
DZ Template vendor document

**Technical requirement and dimensioning documents**

**Legal requirement documents**



EA Act (statutory regulations)  
EA Requirements by authorities (construction, operation, environment)

**Standards and regulations**

EB Basic rules for drawings  
EB Client standard  
EB Graphical symbols  
EB Standard drawings  
EB Standard, code (national/ international)  
EB Technical and work instructions  
EB TKIS standard

**Technical specification / requirement documents**

EC Basic design data  
EC Cathodic corrosion protection concept  
EC Design basis  
EC Design guidelines  
EC Document instruction  
EC Document request form  
EC Earthing and lightning protection concept  
EC Electrical consumer list

Plant <b>1.0 MTPA ALUMINA REFINERY STREAM-5</b>	Client <b>NALCO</b>	Contract Code <b>NAL</b>	Document ID 6695-PDM-G00-BD-0001	Contract No. <b>66-6695</b>
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EC	Engineering specification
EC	Equipment specification
EC	Erection specification
EC	Inspection specification
EC	Instrument index
EC	Material requisition
EC	Piping specification
EC	Specification for special pipe supports
EC	Specification for special piping components
EC	Specification for standard pipe supports
EC	Technical specification
EC	Technical specification PU

#### Dimensioning documents

ED	Cable sizing calculations
ED	Calculation (technical)
ED	Ex-i calculation
ED	Harmonicstudy
ED	Hydraulic calculation for underground drainage and sewage system
ED	Illumination level calculation
ED	Insulation thickness table
ED	List of dimension sheet
ED	List of fire load
ED	List of heatloss
ED	Load flow study
ED	Mass and utility balance
ED	Mass balance
ED	Motor-start study
ED	Piping components calculation
ED	Piping stress analysis
ED	Protection and selectivity study
ED	Response time calculation
ED	Short circuit study
ED	Structural analysis - Architectural and buildings
ED	Structural analysis - Foundation and concrete structure
ED	Structural analysis - Piling
ED	Structural analysis - Structural steel
ED	Summary of electrical loads



#### Function describing documents

#### Functional overview documents



FA	Block diagram for communication system
FA	Block diagram for fire alarm system
FA	SAS architecture drawing
FA	Single line diagram
FA	System architecture diagram for electrical power control system
FA	System wiring philosophy

#### Flow diagrams



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FB	Analyser system block diagrams
FB	Block diagram
FB	Interconnecting block diagram
FB	Mass flow diagram
FB	Piping and instrumentation diagram (PID)
FB	Process flow diagram (PFD)
FB	Process fluid diagram
FB	Project flow diagram
	<b>MMI layout documents</b>
FC	Graphic symbols and layout
	<b>Functional descriptions</b>
FE	Complex control loop description
FE	Functional description
FE	Standard control and logics
	<b>Function diagrams</b>
FF	Cause and effect diagram
FF	Functional diagram DCS
FF	Functional diagram ESD
FF	Functional diagram PLC
FF	Sequence schedule for DEG
FF	Trip schedule
	<b>Signal descriptions</b>
FP	List of control, interlock and signals
	<b>Setting value documents</b>
FQ	Alarm and set-point list
FQ	Setting values for protection relays and ATS
	<b>Circuitry documents</b>
FS	Circuit diagram
FS	I/O layout
FS	I/O list
FS	Instrument loop index
FS	Interconnection diagram
FS	List of heating circuits
FS	List of lighting circuits
FS	Loop diagrams
FS	Typical circuit diagram
FS	Typical loop diagram
	<b>Software specific documents</b>
FT	Installation manual
FT	Program description
FT	Program diagram
FT	User's guide

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### Location documents

#### Exploitation and survey documents

- LA Ground survey plan
- LA Plant location plan

#### Earthwork and foundation work documents


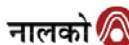
- LB Excavation drawings - Foundations and concrete structures
- LB Load data and anchoring drawings /-list - Foundations and concrete structures
- LB Load data and anchoring drawings /-list - Structural steel
- LB Load diagrams - Piling
- LB Piling arrangement drawings

#### Building carcass documents (including foundations and structural)

- LC Building design drawings
- LC Civil design drawings
- LC Drawings for precast concrete elements - Architectural and buildings
- LC Drawings for precast concrete elements - Foundations and concrete structures
- LC Formwork drawings - Foundations and concrete structures
- LC Load diagrams - Architectural and buildings
- LC Load diagrams - Foundations and concrete structures
- LC Load diagrams - Structural steel
- LC Masonry drawings - Architectural and buildings
- LC Masonry drawings - Foundations and concrete structures
- LC Reinforcement drawings - Architectural and buildings
- LC Reinforcement drawings - Foundations and concrete structures
- LC Roof and wall cladding drawings - Architectural and buildings
- LC Roof and wall cladding drawings - Foundations and concrete structures
- LC Roof and wall cladding drawings - Structural steel
- LC Steel structure arrangement drawings
- LC Structural steel design drawings
- LC Steel structure cut-out drawings
- LC Equipment related steel structure drawings

#### On-site location documents

- LD Cable routing layout
- LD Drainage and sewage layout
- LD Drawing of traffic routes
- LD Equipment arrangement plan
- LD Infrastructural layout
- LD Installation layout communication systems
- LD Installation layout earthing and lightning protection
- LD Installation layout electrical equipment
- LD Installation layout electrical heat tracing
- LD Installation layout fire alarm system
- LD Installation layout lighting
- LD Instrument plot plan
- LD Main cable routing layout

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- LD Overall plot plan
- LD Sectional drawings cable trays/ trenches
- LD Surface protection drawing
- LD Underground coordination plan

#### In-building location documents

- LH Acid proofing layout and detail drawings
- LH Analyser building/shelter layout
- LH Cable routing instrument and control room
- LH Civil description
- LH Drainage detailed drawings for buildings - Architectural and buildings
- LH Drainage detailed drawings for buildings - Foundations and concrete structures
- LH Drainage detailed drawings for buildings - Structural steel
- LH Finishing drawings
- LH Finishing schedule
- LH Layout drawing control and instrument room
- LH Substation arrangement layout

#### Connection-describing documents

##### Connection documents

- MA Air header assignment list
- MA Analyser sample loop arrangement
- MA Hook-up catalogue
- MA Junction box assignment list
- MA List of hook-up assignments
- MA Standard hook-ups
- MA Terminal list

##### Cabling or piping documents

- MB Cable list
- MB Cable routing list
- MB Detailed drawing for underground piping
- MB Drum schedule
- MB Piping isometric drawing
- MB Piping layout drawing
- MB Piping list
- MB System test packages



#### Object listings

##### Material lists

- PA List of lubricants
- PA Material list

##### Parts lists

- PB Bill of quantities
- PB List of anchor bolts

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PB	List of nameplates
PB	Material take-off (MTO)
PB	Material take-off (MTO) cable
PB	Material take-off (MTO) erection material
PB	Spare parts list

#### Item lists

PC	Item list
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#### Product lists and product type list

PD	Equipment list
PD	List of components

### Quality management and safety-related documents

#### Quality management documents

QA	Audit report
QA	Guideline (working steps)
QA	Instruction
QA	Procedure
QA	Quality management manual

#### Safety describing documents

QB	Hazard assessment
QB	HAZOP report
QB	Plan of hazardous areas
QB	Risk assessment
QB	Safety report
QB	SIL classification
QB	SIL verification



#### Quality verifying documents

QC	Calibration certificate
QC	Certificate of compliance with the PO
QC	Deviation report
QC	Inspection certificate
QC	Inspection report
QC	Loop check folders
QC	Material certificate
QC	Measurement report
QC	Quality certificate
QC	Test report
QC	Works test report

### Geometrical form describing documents

#### Planning drawings

TA	Conceptual drawing
TA	Equipment guide drawing

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	<b>Construction drawings</b>
TB	Assembly drawing
TB	Component drawing
TB	Detailed drawing
TB	Engineering drawing
TB	Refractory drawing
TB	Spare part drawing
TB	Sub-assembly drawing

	<b>Manufacturing and erection drawings</b>
TC	Drilling plan
TC	Heat treatment plan
TC	Welding schedule
TC	Workshop drawing

	<b>Arrangement documents</b>
TL	Arrangement document

<b>Operational protocols and records</b>
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	<b>Set point documents</b>
WA	Batch recipe record

	<b>Logbooks</b>
WT	Maintenance, modification logbook
WT	Operational logbook
WT	Test report

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