

## Fjarðaál Aluminium Smelter



### SCOPE OF VERKÍS SERVICES

Verkís was a leading partner in HRV Engineering which teamed up with Bechtel Corporation as Bechtel-HRV

- › Cost estimation and feasibility study
- › Execution planning
- › Engineering in various fields
- › Preparation of bid documentation and review of bids
- › Site execution management
- › Site supervision
- › Quality control

### DESCRIPTION

Bechtel-HRV undertook the project on an EPC basis, being responsible for all engineering, procurement and construction, as well as overall project management, including management of external contracts.

The smelter uses AP36 reduction technology from Aluminium Pechiney, with a total of 334 reduction pots and a production capacity of 345 ktpy. In addition to the two potlines with associated overhead pot tending machines, alumina conveying system, pot-gas extraction ducts, compressed air pipes and pot control system; the following main ancillary facilities are included:

- › Alumina unloading, storage and handling facilities, including vacuum ship unloader, alumina and aluminium fluoride silos and alumina conveying system from the silos to the gas treatment centres
- › Gas treatment centres (dry).
- › 220 kV GIS substation, main distribution system and rectifier transformers with harmonic filters
- › Anode rodding and storage facilities, including butt crushing and bath processing
- › Cast house with rod caster and mill, and sow and ingot casting
- › Potline service facilities, including pot tending machine maintenance shop, and potline equipment maintenance shop
- › Compressor station
- › Warehouse and workshops
- › Administration and personnel facilities

The power to the smelter is generated at the Kárahnjúkar hydropower plant, which has an installed capacity of 690 MW.

### GENERAL INFORMATION

Following an international competition the Bechtel Corporation and the Verkís subsidiary, HRV Engineering, were chosen by Alcoa to design and build a new aluminium smelter in Reyðarfjörður, Iceland. Design began in the autumn of 2003, followed by earthworks in 2004 and first concrete in April 2005. The first hot metal work took place two years later and the smelter was completed at the end of 2007.

### TECHNICAL INFORMATION:

- › Number of pots: 334
- › Pot current: 360 kA
- › Prod. Capacity: 345 ktpy
- › Vacuum ship unloading equipment
- › Alumina and aluminium fluoride silos
- › Alumina conveying
- › Gas treatment centres
- › Gas insulated switchgear
- › Rectifier transformers and harmonic filters
- › Anode rodding shop
- › Bath processing plant
- › Cast house
- › PTM maintenance shop
- › Potline equipment maintenance shop
- › Compressor station
- › Warehouse and workshops
- › Potline offices, control room and laboratory
- › Administration building
- › Gas storage
- › Roads and utilities

