NAPS*

Case Wafa-Mellitah! Naps Systems Group

Naps Systems Group Wafa-Mellitah Pipeline, Libya



 Large stand-alone solar electric systems for gas pipeline cathodic protection, telecommunications, monitoring, valve control and area lighting

 Project completed in autumn 2004



Naps Systems Group Site Specific Issues





- Electricity grid far and too expensive to extend
- Temperatures above +55°C
- Often strong sand storms



Naps Systems Group Objectives for the Project





High availability of the pipeline

- Energy for the pipeline monitoring, control system and lighting in order to secure safety
- Flexibility for locating the sites
- Short construction time
- Minimised need for maintenance and no ne fuel supply

Naps Systems Group Professional Design



 Combined load of 300-3000W per site

 Total of 27 solar electric systems along the pipeline

- Special system control units for each site with Scada remote monitoring capabilities
- Naps power solutions operating with the other site equipment in MODBUS protocol
- Autonomy time secured in case of emergency



Naps Systems Group System Components



- 24-300 pcs of Naps 100-watt modules per site
- Battery bank for 4 days autonomy
- System management by custom-made Naps NSCi professional control unit
- Rectifiers for battery charging
- Other equipment: structures, panel centres, cables, battery main fuses and accessories



Naps Systems Group Implementation





- Locally supplied foundation, equipment shelter and complete installation
- Site supervision and start-up provided by Naps
- Customer is pleased about Naps intensive service and the high level of technology.



Naps Systems Group Conclusions



 The initial investment was low compared with any other from of energy supply

- The implementation was done rapidly in 8 weeks
- Operational costs are very low
- Maintenance: one 1-2 hrs visit per site per year
- Very reliable power supply
- New orders under processing as a result of good implementation//

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