

Garrad Hassan America, Inc
11770 Bernardo Plaza Court
Suite 209
San Diego, California
92128

Tel: (1) 858-451-7013
Fax: (1) 858-451-1570



Document Details

Title	Update of Sheffield Wind Farm Energy Assessment for the Gamesa G87 – Addendum to 4776/AR/01a
Client	UPC Wind Management, LLC
Document	4776/AT/01a
Author	Ryan Adams
Date	27 October 2005
Rev	A
Checked	Adam Schwarz
Approved	Adam Schwarz

History

Rev	Date:	Summary
A	27.OCT.05	First issue

Garrad Hassan America, Inc.

Commercial in Confidence. Not to be disclosed outside the recipient's organisation.

This document and its contents are confidential. Unauthorised reproduction or disclosure of this document or of any of its constituent parts or the use thereof for any purpose other than which it was produced is not permitted. All intellectual and property rights (including but not limited to copyright) remain vested in Garrad Hassan America, Inc.

© 2005 Garrad Hassan America, Inc.

Turbine ID	Easting¹ [m]	Northing¹ [m]	Mean hub-height wind speed² [m/s]	Energy output³ [GWh/annum]
1	730475	4951425	8.2	7.3
2	732025	4951775	8.2	7.5
3	730275	4951125	8.1	7.0
4	728600	4950175	7.9	7.6
5	730125	4951500	8.0	7.2
6	731500	4951825	7.8	7.3
7	730600	4951000	7.9	6.7
8	730525	4950425	7.7	6.9
9	730369	4950775	7.5	6.4
10	729925	4951175	7.3	6.3
11	729775	4951525	7.2	6.3
12	729450	4950447	7.1	6.1
13	731228	4951725	7.6	7.0
14	730727	4951513	7.3	6.4
15	731775	4951975	7.5	6.7
16	728842	4950350	7.4	6.7
17	731850	4951525	7.4	6.5
18	729125	4950900	7.4	6.6
19	729525	4951050	7.3	6.4
20	730968	4951633	7.0	6.2
21	730350	4946550	6.7	5.2
22	730550	4947050	6.6	5.3
23	730300	4946150	6.4	4.9
24	730025	4947650	6.2	4.7
25	730325	4947325	6.2	4.5
26	730025	4946425	6.0	4.4

Notes

- 1 Co-ordinate system is UTM NAD27
- 2 Wind speed at the location of the turbine, not including wake effects
- 3 Individual turbine output figures include topographic, array and air density adjustments only

Table 1 Turbine layout with predicted individual turbine wind speed and energy production

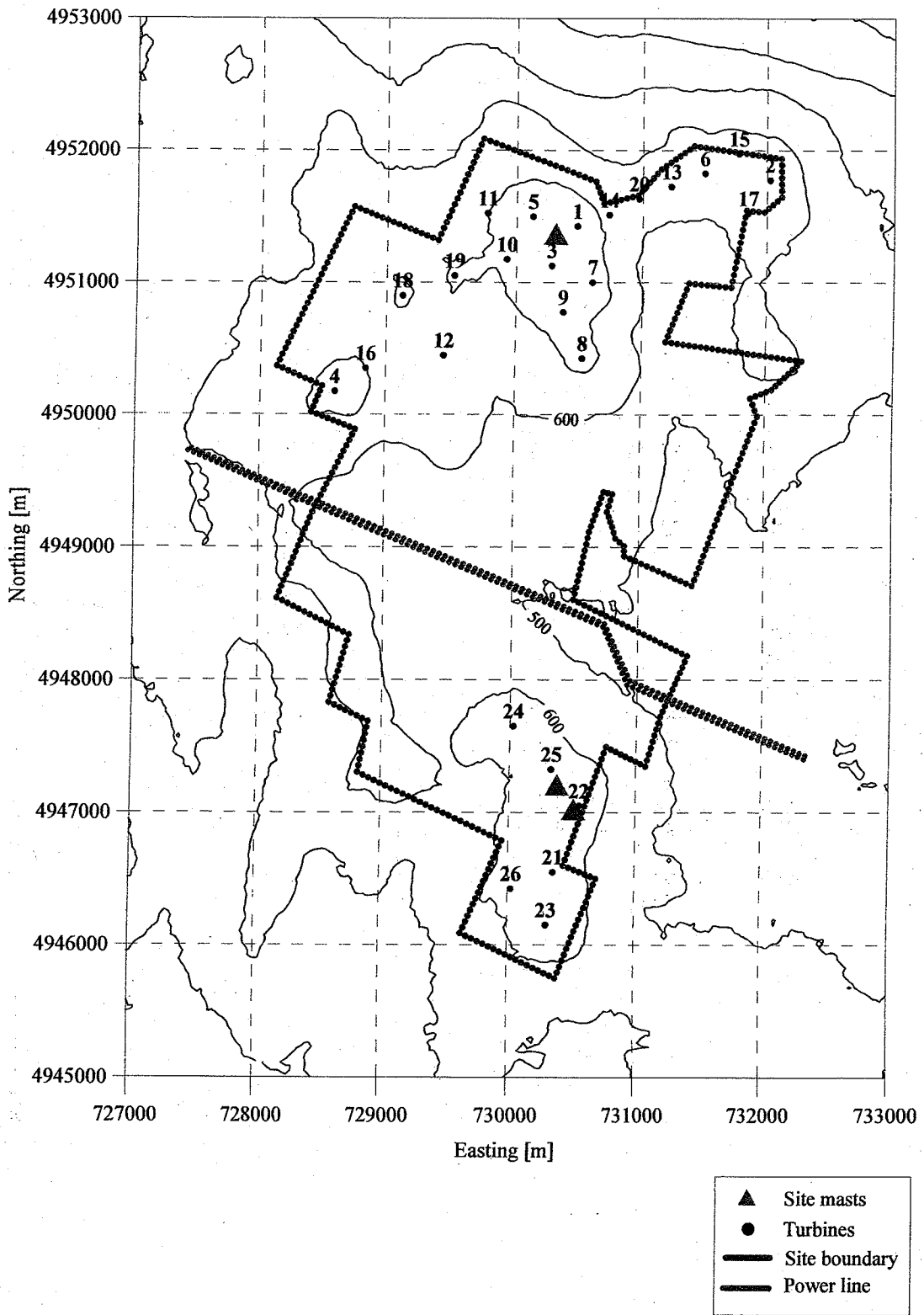


Figure 1 Layout of the Sheffield Wind Farm