

# Highland and Islands Fire Board



**IRMP Risk Review**

## **Future Capital Build Programme**

# **Future Capital Build Programme Proposal**

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# **Future Capital Build Programme Proposal**

## **Purpose of Report**

The purpose of this report is to present to the Board a risk based methodology which allows the prioritisation of the Capital Build Programme.

### **1.0 Introduction**

HIFRS currently has 95 stations providing emergency response to the service area, mainly crewed by Retained duty personnel, which are supported by 14 Community Response Units. Whilst the Board has made good progress in building stations of an appropriate standard there remain a significant number of stations which still require to be provided/upgraded.

Historically the building of stations has not been prioritised in a robust manner, with the sequence of builds being influenced by many local factors. It is recognised that the provision of a fire station located in an appropriate position is a complex task requiring the acquisition of land, planning approval, building warrant etc.

As such the efforts of the Board must be directed by a priority order for station builds, which is directly linked to the worth of a station based upon risk and sustainability information.

Having gathered information to support the Sustainability Review process, as agreed by the Board on the 27<sup>th</sup> April 2006, the Service has been able to analyse information relevant to individual stations and their associated communities, extending over a 30 month period.

To facilitate the progression of the Board's IRMP Risk Review in considering the Capital Build Programme, the service has applied a methodology which utilises an approach by which individual data sets can be quantified, analysed and brought together to present information which will provide an evidenced based priority for future builds.

### **2.0 Methodology**

#### **2.1 Background**

The Service has gathered evidence through the Sustainability Review and undertaken a detailed analysis of other associated data sets in order to prioritise the appropriate upgrading of operational fire stations.

The appropriate upgrading of a station resource includes;

- Ensuring that the appropriate role related accommodation resources are available to personnel at the station i.e. water, sink, toilet etc.
- The provision of an appliance and suitable equipment which is matched to the station identified role.

The Methodology used during this analysis will in the future assist the Service in deciding the appropriate allocation of resources within the fields of Prevention, Protection and Intervention.

The data sets that have been considered include;

- Data gathered from the Sustainability Review.
- Demographic information on communities including the distribution of vulnerable persons.
- The potential for future life critical incidents.
- Critical elements of the current intervention resources provision.

The report details fully the application of the methodology used to review the current upgrading/building programme and proposes a priority for the Capital Build Programme and the future allocation of appliances.

## 2.2 Identifying Station/Unit Impact on Lives Saved

### Appendix A

In developing the Fire Services Emergency Cover (FSEC) model the Service is able to predict the time period in which it is probable that a station will save a life based on empirical data from actual operational incidents and statistical demographic evidence. This risk based predictor includes the potential for all life critical incidents which could be attributed to the area the station covers as first response. Potential incidents include; domestic risk, commercial risk and the possibility of fatalities resulting from road traffic collisions.

**Table A1** Illustrates the scoring distribution for the “FSEC Years per Additional Lives Saved” scoring sheet which is calculated and produced by the Fire Service Emergency Cover (FSEC) model. The figure i.e. 11.36040897 represents that it is predicted from demographic information, risk information and the distribution of previous life critical incidents that the station will save a life, either at a fire or at a road traffic collision, once every 11 years (approximately).

**Table A2 (Graph)** illustrates the distribution of Stations/Units across scoring bands used. This exercise has been completed to ensure that scoring bands allocated allow for an even spread of stations across all the bands.

**Table A3 and A4** contain lists of all stations in the Service area (Retained and CRU with RTC/Wildfire role) scored and graded for their potential intervention contribution to life safety. The Comparative Score column, allocates a score from of 1 to 20 in relation to the “FSEC Years per Additional Lives Saved” scoring sheet column.

The wide distribution scale of 1 to 20 is used to emphasise the importance of the “Years per additional lives saved” in comparison to the other data sets analysed.

## 2.3 Quantifying the Potential Recruitment Pool

To ensure a station’s sustainability into the future there must be sufficient people living in an area who are eligible and willing to serve as firefighters. The “Predicted Population for Recruitment” figure attempts to quantify the number of persons who could be available for potential recruitment to ensure the Station can maintain operational availability at all times.

## Appendix B

**Table B1** Illustrates the scoring distribution for each station's resultant population that could be available to be recruited to provide emergency day time response.

**Table B2** and **B3** identifies the total resident population associated with the area each station covers (Retained and CRU with RTC/Wildfire role) as first response drawn from 2001 Census figures and predicts the potential number of persons who could be available to provide emergency 'day cover', during the period 08.00 – 18.00hrs. The potential Day Cover recruits figure is derived by subtracting the total number of residents who it would appear are unable/unsuitable to become firefighters, from the total resident population.

The measure of Day Cover potential is critical to HIFRS as the majority of the stations are crewed by personnel working the Retained Duty System. This involves Retained personnel being able to respond to the station and answer emergency calls from their place of employment, if continuous emergency response is to be maintained.

An example calculation is detailed below - **Example Potential Day Cover Recruits**

<b>Population Details</b>	<b>Number</b>	<b>Running Total</b>
Total Resident Population*	161	161
Persons under the age of 18	21	140
Persons over the age of 65	29	111
Persons already in the Retained Unit	8	103
<b>Persons remaining</b>		<b>103</b>
Persons working in "Agriculture and Fishing"	5.9% of 103 = 6	97
Persons working in "Transport and Communications"	7.3% of 103 = 7	90
Number of Persons living/working > 5km from Station (this has a direct impact on mobilising time by ensuring that it does not exceed 7 minutes from initial call to appliance turn-out)		33
<b>Total Potential Persons Remaining</b>		<b>57</b>

\* Drawn from 2001 Census data

For a number of stations which appear to have very low numbers of Potential Day Cover Recruits further investigation will be undertaken during the later stages of the IRMP Risk Review. i.e. the 2001 Census details the island of Foula as having a resident population of 66, but this is combined with an area of the mainland. It is believed the current island figure is less than 30.

### 2.4 Examining Establishment Figures by Station

## Appendix C

Key to maintaining the required availability at a Retained Duty System Station is the provision of an appropriate establishment group comprising of skilled and available employees.

For any given station there are a minimum total number of contracted hours of employment required if the station is to be available 24/7. For a one pump station this is 672 hours and for a two pump station 1344 hours.

The Station establishment figures must also cater to ensure, sufficient numbers of personnel are available during periods of annual leave (and other associated leave as required by current Employment legislation e.g. special leave, maternity/paternity leave etc), sickness and potential fluctuations in periods of unavailability through primary work commitments.

**Tables C1 and C2** illustrates the scoring distribution used for scoring the trends in establishment for one and two pump stations.

**Table C3** identifies station establishment figures over a 6 year reporting period (2002 to 2008).

**Table C4** identifies the establishment comparative grading score for CRUs (RTC/Wildfire Only) since taking up their new role in 2005.

**NB** Station “benchmark” establishment levels for stations across the Service area are 10 persons for a 1 pump station and 20 persons for a 2 pump station. However it is accepted that these figures will vary due to local circumstances.

## **2.5 Crew Confidence Levels**

### **Appendix D**

The crew confidence level is a measure of the number of firefighters who respond to an incident on the appliance.

To ensure safe systems of work at operational incidents are adopted it is essential that a minimum team of 4 firefighters crew each appliance on all occasions.

**Table D1** illustrates the scoring distribution allocated to Crew Confidence Levels achieved.

**Tables D2 and D3** identify the Crew Confidence Levels achieved for all (1 and 2 pump) stations and CRUs across the Service area and scores them in terms of their percentage of total calls received when the station could not achieve the minimum Crew Confidence Level.

**NB** In following Service procedures at no time should a station with insufficient crew be solely alerted as availability should be proactively managed locally. In the eventuality of no solution being available the appliance should be booked unavailable with the Service Control Centre. Following this procedure will avoid delays in intervention response times.

**Tables D2 and D3** Titled columns explained:

The Station column - details the station name.

The Failed column - details the actual number of calls where no appliance attendance from the specific station could be made.

Total Number of Calls including Standby column - details the actual number of operational calls/standby received for the specific station.

Overall %age Failure column - details percentage of non-attendance/failure to attend for all calls received.

Comparative Grading Score column - details the station specific score allocated to that station for Crew Confidence Level performance.

The History column - details data relating to the reporting period, 1<sup>st</sup> April 2006 to 30<sup>th</sup> September 2008 and colour coded as per key.

## **2.6 Summary of Sustainability Review Information**

### **Appendix E**

**Tables E1 and E2** ‘Combined Sustainability Score’ combines the information from sections 2.2 – 2.5.

**Tables E1 and E2** explained:

The Station column - details the station name.

FSEC Years per Additional Lives Saved Score column – details the station specific figure from Appendix A tables A3 & A4.

Potential Day Cover Recruits Score column - details the station specific figure taken from Appendix B tables B2 & B3.

Current Establishment Score column - details the station specific Figure taken from Appendix C tables C3 & C4.

FSEC Years + Potential Day Cover Score + Current Establishment Score column - details a sum of all Comparative Grading Scores of the previous columns (**Sub-Total Score**).

Crew Confidence Score column - details the station specific figure taken from Appendix D Tables D2 & D3.

Total Sustainability Result Score column - details the overall Total Sustainability Result Score (Crew Confidence Score subtracted from the Sub-Total Score)

Applying the Methodology to the captured data and presenting it in the Combined Sustainability Score format provides a robust and measured reflection of how stations and units perform.

## 2.7 Current Station Builds

### Appendix F

In order to establish a priority for the build programme, to recognise those stations with the most inappropriate facilities a survey of building stock was undertaken.

**Table F1** explains the scoring distribution as utilised in the station build scoring sheet.

**Tables F2 and F3** summarise the results for all Retained stations and CRUs.

**Tables F2 and F3** explained:

The Station column - details the station name.

The Building Type column - details the building type, defined in terms of construction e.g. traditional build, steel, new build etc.

Appliance Station Can Accommodate column - identifies the type of appliance that station has capacity for housing (considering station dimensions and floor load-bearing capacity to support appliance weight).

Station Specific Facilities column - identifies the current station facilities e.g. plumbed water for domestic arrangements, required for general station use, cleaning and personnel facilities.

Virtual Station column - identifies possible alternative arrangements, adjacent to or near to the station and available for FRS personnel use.

Calculation column - identifies the overall score allocated to each station by applying the scoring mechanism in **Table F1**.

Notes column - captures supplementary information relevant to specific stations.

Appliance Currently at Station column - identifies the actual appliance housed at each station.

## 2.8 Stations Currently Without High Pressure Hose Reels Capacity

### Appendix G

The provision of a high pressure hose reel resource for appliances attending structural fires is a stated aspiration of the Board.

**Table G1** identifies all the stations which do not currently have high pressure hose reel equipment and groups them by constituent authorities.

**Appendix H, Map 1** illustrates the areas of the service that appliances equipped with High Pressure Hose Reels can reach within defined time bands.

## 2.9 Current Capital Build Programme

The provision of appropriate fire stations and appliances is fundamental to the provision of operational intervention capability.

Historically the building priority of stations has not been prioritised in a robust manner, with the sequence of builds being influenced by many local factors. It is recognised that the provision of a fire station located in an appropriate position is a complex task requiring the acquisition of land, planning approval, building warrant etc.

The future provision of intervention resources should be determined by the Integrated Risk Management Plan.

### **The Capital Programme Monitoring Report and Site Acquisition for future new build (extract from Fire Board Papers of 23 January 2009)**

<b>Capital Programme Monitoring Report – identifying new station builds</b>	
Scourie	
Aultbea	
Rousay	
Tongue	
Helmsdale	(completed September 2008)
Carrbridge	(completed February 2009)
Lochaline	(partnership project currently being progressed)

<b>Site Acquisition Report – to accommodate new station builds</b>
Fair Isle
Foyers
Kinlochewe
Scalloway
St Margaret's Hope
Torridon
Bayhead
Uig
Whalsay

### **Sites in Current Ownership of the Board as detailed to the Board Meeting, 11<sup>th</sup> September 2008.**

<b>Sites in Ownership of the Board</b>
Lochboisdale
Glenelg
Staffin
Stronsay
Sanday
Sandwick

### 3.0 Conclusions

From the data gathered it is clear that the analysis of information for a large number of stations, covering a wide variety of station performance and area demographics measures is an extremely complex task.

The methodology applied has provided robust measures in terms of calculable/tangible outcomes and allowed a 'performance' and "risk based" approach to aspects of service delivery.

To progress a way forward the priority factors which should influence the Capital Build Programme must be identified. These include;

- The sustainability of stations into the future
- The contribution the station makes to life critical incidents
- The provision of high pressure hose reel equipment

Analysing the information gathered based upon these three criteria gives an outline priority for the upgrading future stations. This initial priority order is detailed in the table below;

Station Name	Overall sustainability Score	Response Time From the Nearest Station
Scalloway	25	9.28
Whalsay	25	Island
Sandwick	23	18.34
Staffin	21	20.36
Baltasound	21	Island
John O'Groats	21	25.30
Bonar Bridge	20	16.46
Acharacle	19	18.39
Stronsay	18	Island
Aultbea	17	19.52

Also included in the table is the 'Response Time from the Nearest Station'. This time represents the approximate time taken for a second appliance to support the first appliance mobilised. These times are depicted in **Appendix I** for all stations that currently do not have high pressure hose reel equipment.

Taking Scalloway as an example it would appear that the station has a relatively high sustainability score, however it is only 9.28 minutes from the adjacent station. In this situation it could be questioned;

- Why a station at Scalloway is required as a response from Lerwick can be provided in a relatively short time period?
- Why the FSEC 'time taken to save a life' score is the 55<sup>th</sup> highest in the Service area at 87 years, when the station is relatively close to Lerwick?
- Is the 'time taken to save a life' figure calculated directly from lives saved in the Scalloway area or in the areas of adjacent fire stations?

These questions can only be answered during the later stages of the Risk Review once the inter relationship between all stations has been explored.

#### **4.0 Way Forward Proposal**

The key factors which should initially influence the Capital Build Programme are;

- The sustainability of stations into the future
- The contribution the station makes to life critical incidents
- The provision of high pressure hose reel equipment

Base on the need for further investigation into the relationships between all stations , which will be completed at a later stage of the Risk Review the recommendations for the way forward can be divided into logical stages;

- The upgrading of vehicles with high pressure hose reel equipment, currently owned by the Service, for current stations which can physically accommodate the appliances.
- The identification of pre existing premises, suitable to be a fire station, in locations recommended by this report.
- The identification of new build sites for the capital build programmes allocated monies for 2009 / 2010.
- The identification of possible new sites for acquisition by the Board based on the recommendations of this report. These should be limited to the top priority sites only as the future stages of the Risk Review may change priorities.
- The provision of vehicles (with high pressure hose reel equipment) into current stations which can physically accommodate smaller appliances.

## 5.0 Recommendations

Whilst the intervention inter relationship between stations cannot be considered until the later stages of the IRMP Review, the following recommendations are based on the overall Sustainability scores which consider;

- Identified risk associated with each station
- The demographics associated with each station
- The historical establishment of each station

The sustainability score is a most important overall assessment score and whilst the roles of those stations with lower scores will need to be examined in greater detail during the latter stages of the IRMP Risk Review process, it is likely that those stations with higher scores will still be required to provide an intervention role in the future.

### Appendix H, Table H1 – Sustainability Score for all Station without High Pressure Hose Reel Equipment

As such;

#### 5.1 Recommendation 1 - Upgrade of Appliances at Current Stations

It is believed that a number of stations can currently accommodate vehicles which can be fitted with high pressure hose reel equipment. It is recommended to progress the allocation of vehicles with high pressure hose reel equipment, into current stations which can physically accommodate the appliances. These include;

Station Name	Overall sustainability Score	Vehicle that the Station can Potentially Accommodate
Whalsay	25	Midi
Baltasound	21	Type B
Acharacle	19	Midi
Aultbea	17	Type B

With further investigation it may be possible to provide appropriate vehicles to additional stations. This allocation will be made on a risk / sustainability based priority.

## 5.2 Recommendation 2 – Interim Capital Build Proposal for 2009 / 2010

Irrespective of the future priority recommendations of this report, a site to meet the needs of the Capital Build Programme allocated monies for 2009 / 2010 needs to be identified for immediate progression. It is recommended that as an interim measure to achieve the Capital Build spend for 2009/2010, to progress the most appropriate site from those currently owned by the Board, prioritised by the combined sustainability score.

<b>Sites in Ownership of the Board</b>	<b>Sustainability Score</b>
Lochboisdale	24
Sandwick	23
Staffin	21
Stronsay	18
Sanday	11
Glenelg	9

In each case the identification of pre existing premises, suitable to be a fire station, in each of these locations should be considered.

## 5.3 Recommendation 3 - Acquisition of Land/Buildings

The future upgrading of stations should be prioritised based upon the combined Sustainability score and the aspiration of the Board to provide high pressure hose reel equipment to all stations. The following represents the priority order in which the initial acquisition of land / station upgrade programme should be directed.

<b>Station Name</b>	<b>Overall Sustainability Score</b>
Scalloway	25
Whalsay (possible building lease)	25
Sandwick	23
Staffin	21
Baltasound (possible building identified)	21
John O'Groats	21
Bonar Bridge	20
Acharacle (possible building lease)	19
Stronsay	18
Aultbea (new station in build)	17

In each case the identification of pre existing premises, suitable to be a fire station, in each of these locations should be considered.

NB Uig – Preliminary surveys have been completed for a new build. The station currently has a full size appliance, equipped with high pressure hose reels, housed in an agricultural building which may be unsuitable. Further investigation is required before Uig can be allocated to the priority build list.

#### **5.4 Recommendation 4 – Alternative Appliance Provision**

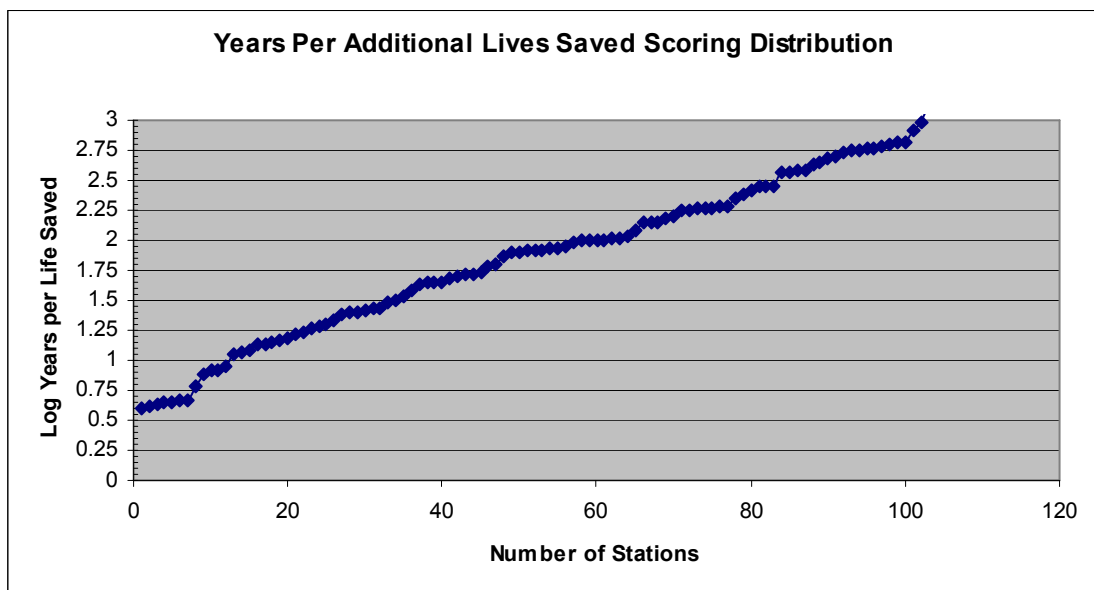
Whilst acknowledging the Boards aspiration to provide appropriate appliances for all stations it must be recognised that the traditional (Type B) appliance may not be the best match for the risk identified in each area.

As such it is proposed to explore the potential to provide alternative appropriately equipped appliances, and following this investigation it is proposed to roll out a phased programme to provide appropriately equipped vehicles (with high pressure hose reel equipment) into current stations able to accommodate new physically smaller appliances.

Table A1 FSEC Years Per Additional Lives Saved Scoring Sheet

Years per additional lives Saved	Score
0 to <5	20
5 to <7	19
7 to <9	18
9 to <12	17
12 to <16	16
16 to <21	15
21 to <28	14
28 to <38	13
38 to <50	12
50 to <67	11
67 to <90	10
90 to <120	9
120 to <160	8
160 to <210	7
210 to <280	6
280 to <375	5
375 to <500	4
500 to <670	3
670 to <900	2
900 to <1250	1
>= 1250	0

Table A2 FSEC Years Per Additional Lives Saved – Station Distribution Graph



**Table A3. FSEC Years Per Additional Lives Saved (Retained Stations)**

No	Station Name	Years per additional lives Saved	Score
1	Inverness Retained	-3.920354086	20
2	Fort William - Pump 1	-4.148964418	20
3	Nairn - Pump 1	-4.268906989	20
4	Stornoway - Pump 1	-4.419616024	20
5	Invergordon - Pump 1	-4.462393181	20
6	Wick - Pump 1	-4.622631479	20
7	Thurso - Pump 1	-4.685684297	20
8	Kirkwall - Pump 1	-6.037590036	19
9	Dingwall - Pump 1	-7.773873566	18
10	Grantown - Pump 1	-8.148896639	18
11	Lerwick - Pump 1	-8.333819473	18
12	Aviemore	-9.04502614	17
13	Tain	-11.36040897	17
14	Stornoway - Pump 2	-11.75391993	17
15	Nairn - Pump 2	-12.20390281	16
16	Fort William - Pump 2	-13.3639814	16
17	Kingussie	-13.50840223	16
18	Wick - Pump 2	-13.909947	16
19	Thurso - Pump 2	-14.69464527	16
20	Invergordon - Pump 2	-14.98082454	16
21	Kirkwall - Pump 2	-16.38860664	15
22	Stromness - Pump 1	-16.96583082	15
23	Golspie	-18.51063436	15
24	Grantown - Pump 2	-19.0923497	15
25	Portree	-19.57406827	15
26	Dornoch	-21.36752137	14
27	Beauly	-24.59056706	14
28	Kyle of Lochalsh	-24.64754018	14
29	Drumnadrochit	-25.23659306	14
30	Lerwick - Pump 2	-26.45082791	14
31	Kinlochleven - Pump 1	-27.43710045	14
32	Fortrose	-27.52773419	14
33	Dingwall - Pump 2	-30.98757398	13
34	Ullapool	-31.4159153	13
35	Helmsdale	-33.55704698	13
36	Broadford	-38.81083599	12
37	Brae - Pump 1	-42.78807069	12
38	Stromness - Pump 2	-44.32034747	12
39	Benbecula	-44.63289444	12
40	Port of Ness	-45.28165187	12
41	Strontian	-48.2695371	12
42	Fort Augustus	-50.671396	11
43	Bonar Bridge	-51.94805195	11
44	Castlebay	-52.22477543	11
45	Shawbost	-54.54049632	11
46	Lairg	-59.74786401	11
47	Sandwick	-63.91818472	11
48	Mallaig	-74.93443237	10
49	Kinlochleven - Pump 2	-78.49909726	10
50	Tarbert	-80.90614887	10
51	Dunvegan	-81.36034497	10
52	Dunbeath	-81.95377807	10
53	Lochboisdale	-82.83631544	10
54	Staffin	-85.11362669	10

No	Station Name	Years per additional lives Saved	Score
55	Scalloway	-87.12319219	10
56	Uig	-89.43743851	10
57	Baltasound	-95.52923194	9
58	Lochcarron	-99.83028851	9
59	Whalsay	-100.4419446	9
60	Lochinver	-100.7658202	9
61	Lochmaddy	-101.4404545	9
62	Aultbea	-103.9392994	9
63	Gairloch	-105.1635293	9
64	St Margaret's Hope	-109.3135111	9
65	Brae - Pump 2	-119.5171507	9
66	Sumburgh	-139.2175971	8
67	Bayhead	-141.1233418	8
68	Kinlochbervie	-141.6029453	8
69	Leverburgh	-154.3686323	8
70	John O'Groats	-156.2255898	8
71	Walls	-175.8705593	7
72	Acharacle	-179.0510295	7
73	Westray	-184.0942563	7
74	Bettyhill	-186.8460389	7
75	Foyers	-188.2884579	7
76	Mid Yell	-191.0584639	7
77	Hillswick	-192.6782274	7
78	Sanday	-225.9887006	6
79	Scalpay	-240.442414	6
80	Bressay	-258.1311306	6
81	Longhope	-276.6251729	6
82	Great Bernera	-284.8191398	5
83	Fair Isle	-285.6326764	5
84	Lochaline	-366.8378577	5
85	Stronsay	-369.139904	5
86	Shapinsay	-384.4675125	4
87	South Lochs	-386.3987635	4
88	Papa Westray	-437.0629371	4
89	Bixter	-455.1661356	4
90	Scourie	-488.997555	4
91	Eday	-505.5611729	3
92	Cannich	-546.149645	3
93	Raasay	-558.9714925	3
94	Fetlar	-568.1818182	3
95	Achiltibuie	-587.5440658	3
96	Flotta	-593.824228	3
97	Durness	-595.9475566	3
98	North Ronaldsay	-627.7463905	3
99	Tongue	-663.5700066	3
100	Applecross	-665.3359947	3
101	Valtos	-810.3727715	2
102	Rousay	-979.4319295	1
103	Kilchoan	-1201.923077	1
104	Glenelg	-1215.066829	1
105	Skerries	-1529.051988	0
106	Torridon	-2444.987775	0
107	Kinlochewe	-4310.344828	0
108	Foula	-15384.61538	0

**Table A4. FSEC Years Per Additional Lives Saved  
(Community Response Units with RTC Role)**

No	Station Name	Years per additional lives Saved	Score
1	Carrbridge	-38.6294279	12
2	Newtonmore	-59.70862193	11
3	Sleat	-1183.431953	1
4	Spean Bridge	-2604.166667	0
5	Lybster	-5025.125628	0
6	Balintore	No Value is attributed due to the location of occurring incidents and the close proximity of other Stations	
7	Cromarty		
8	Ratagan		

**Table B1 Potential Population for Day Cover Recruitment Scoring Sheet**

Recruitment Potential - Possible Number of persons available to recruit for day cover		
1 Pump station	2 Pump station	Scoring
0 – 25	0 – 50	1
26 – 50	51 – 100	2
51 – 100	101 – 200	3
101 – 200	201 – 400	4
201 – 300	401 – 600	5
301 – 400	601 – 800	6
401 – 500	801 – 1000	7
501 – 750	1001 – 1500	8
751 – 1000	1501 – 2000	9
1000 +	2001 +	10
N.B. Benbecula, Castlebay, Ullapool = one pump stations		

**Table B2 Demographics - Resident Population and Potential Day Cover Recruits (Retained)**

Station Name	Total Resident Population 2001 Census	Potential Day Cover Recruits	Score
Inverness Retained	57,088	18316	10
<b>Fort William - Pump 1</b>	11,130	4779	10
<b>Fort William - Pump 2</b>	11,130	4779	10
<b>Invergordon - Pump 1</b>	10,714	3612	10
<b>Invergordon - Pump 2</b>	10,714	3612	10
<b>Wick - Pump 1</b>	9,937	3321	10
<b>Wick - Pump 2</b>	9,937	3321	10
<b>Dingwall - Pump 1</b>	11,909	3203	10
<b>Dingwall - Pump 2</b>	11,909	3203	10
<b>Kirkwall - Pump 1</b>	9,801	3142	10
<b>Kirkwall - Pump 2</b>	9,801	3142	10
<b>Lerwick - Pump 1</b>	7,609	2959	10
<b>Lerwick - Pump 2</b>	7,609	2959	10
<b>Nairn - Pump 1</b>	8,771	2864	10
<b>Nairn - Pump 2</b>	8,771	2864	10
<b>Thurso - Pump 1</b>	12,614	2539	10
<b>Thurso - Pump 2</b>	12,614	2539	10
<b>Stornoway - Pump 1</b>	5,657	1659	10
Tain	5,478	1483	10
<b>Grantown - Pump 1</b>	3,295	1200	10
Aviemore	2,721	1091	10
Golspie	3,458	1014	10
<b>Stornoway - Pump 2</b>	5,657	1659	9
Portree	2,209	866	9
Fortrose	4,232	830	9
<b>Grantown - Pump 2</b>	3,295	1200	8
Kingussie	2,043	673	8
Ullapool	1,758	659	8
<b>Stromness - Pump 1</b>	3,884	656	8
Dornoch	2,186	633	8
Drumnadrochit	1,887	540	8
Kyle of Lochalsh	2,099	528	8
Mallaig	1,438	502	8
Gairloch	1,480	439	7
<b>Stromness - Pump 2</b>	3,884	656	6
Benbecula	1,249	397	6
Broadford	1,466	376	6
Shawbost	2,044	372	6
Fort Augustus	1,219	362	6
Bonar Bridge	1,629	352	6
Castlebay	1,172	338	6
Whalsay	1,034	320	6
<b>Kinlochleven - Pump 1</b>	1,340	312	6
Lochinver	876	284	5
Port of Ness	1,341	276	5
Tarbert	1,078	271	5
Lairg	1,162	250	5
Bettyhill	1,041	243	5
Lochcarron	1,064	234	5
Aultbea	914	229	5
Lochboisdale	1,212	223	5
Scalloway	1,129	221	5
Helmsdale	902	220	5
St Margaret's Hope	1,380	217	5
<b>Kinlochleven - Pump 2</b>	1,340	312	4

Station Name	Total Resident Population 2001 Census	Potential Day Cover Recruits	Score
Baltasound	720	192	4
<b>Brae - Pump 1</b>	820	168	4
John O'Groats	1,289	161	4
Dunbeath	621	155	4
Dunvegan	705	149	4
Tongue	602	146	4
Uig	676	144	4
Kinlochbervie	384	137	4
Stromsay	358	137	4
Westray	563	133	4
Bressay	384	129	4
Strontian	419	125	4
Beauly	6,896	119	4
Sumburgh	1,045	115	4
Sandwick	877	111	4
Foyers	497	111	4
Staffin	599	110	4
Lochaline	317	105	4
Acharacle	374	102	4
<b>Brae - Pump 2</b>	820	168	3
Torridon	309	97	3
Walls	897	96	3
Cannich	430	91	3
Valtos	322	83	3
Scalpay	322	82	3
Mid Yell	355	79	3
Bixter	708	78	3
Bayhead	739	76	3
Kilchoan	290	75	3
South Lochs	463	74	3
Glenelg	277	64	3
Achiltibuie	271	61	3
Great Bernera	299	60	3
Shapinsay	300	59	3
Durness	201	57	3
Applecross	161	57	3
Scourie	222	50	2
Longhope	186	49	2
Lochmaddy	225	48	2
Sanday	144	46	2
Raasay	194	44	2
Rousay	144	43	2
Eday	121	36	2
Kinlochewe	155	35	2
Skerries	76	26	2
Foula	66	26	2
North Ronaldsay	70	23	1
Flotta	81	22	1
Hillswick	352	19	1
Fair Isle	69	19	1
Fetlar	86	16	1
Leverburgh	584	15	1
Papa Westray	65	15	1

**Table B3 Demographics - Resident Population and Potential Population for Recruitment (CRU with RTC Role)**

Station Name	Total Resident Population 2001 Census	Potential Day Cover Recruits	Score
Newtonmore	1,090	451	7
Balintore	2,019	375	6
Carrbridge	1,228	354	6
Cromarty	1,314	296	5
Lybster	1,126	225	5
Spean Bridge	830	113	4
Sleat	505	99	3
Ratagan	202	32	2

**Table C1 Establishment Scoring Sheet****Over 6 Years as at Year End and 2008 column = last 6 months Sustainability figure**

<b>1 Pump Stations</b>	
<b>Score</b>	<b>Reason</b>
1	Current establishment <6 + history trend indicates little change
2	Current establishment >6 + history trend indicates little change Current establishment 7 + history fluctuations give a negative trend over last 3 years
3	Establishment reasonably consistent at 7
4	Current establishment 7 + history fluctuations indicate increase trend over last 3 years Current establishment 8 + history fluctuations give a negative trend over last 3 years
5	Establishment reasonably consistent at 8
6	Current establishment 8 + history fluctuations indicate increase trend over last 3 years Current establishment 9 + history fluctuations give a negative trend over last 3 years
7	Establishment reasonably consistent at 9
8	Current establishment 9 + history fluctuations indicate increase trend over last 3 years Current establishment 10 + history fluctuations give a negative trend over last 3 years
9	Establishment reasonably consistent at 10 over last 3 years
10	Current establishment 10 + consistent over reporting periods

**Table C2 Establishment Scoring Sheets for Second Pump (Stations with 2 Pumps)**

<b>2 Pump Stations</b>	
<b>Score</b>	<b>Reason</b>
1	Current establishment <16 + history trend indicates little change
2	Current establishment >16 + history trend indicates little change Current establishment 17 + history fluctuations give a negative trend over last 3 years
3	Establishment reasonably consistent at 17
4	Current establishment 17 + history fluctuations indicate increase trend over last 3 years Current establishment 18 + history fluctuations give a negative trend over last 3 years
5	Establishment reasonably consistent at 18
6	Current establishment 18 + history fluctuations indicate increase trend over last 3 years Current establishment 19 + history fluctuations give a negative trend over last 3 years
7	Establishment reasonably consistent at 19
8	Current establishment 19 + history fluctuations indicate increase trend over last 3 years Current establishment 20 + history fluctuations give a negative trend over last 3 years
9	Establishment reasonably consistent at 20 over last 3 years
10	Current establishment 20 + consistent over reporting periods

**Table C3. Establishment by Station over 6 years (as at year end) Retained**

Station Name	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	To Sep 2008	Potential Day Cover Recruits	Comparative Grading Score
Inverness Retained	12	11	11	12	12	12	11	18316	10
<b>Fort William - Pump 1</b>	20	19	20	20	19	19	20	4779	10
<b>Invergordon - Pump 1</b>	20	20	19	19	18	16	16	3612	10
<b>Wick - Pump 1</b>	20	21	20	20	20	19	19	3321	10
<b>Dingwall - Pump 1</b>	20	20	19	23	21	21	20	3203	10
<b>Kirkwall - Pump 1</b>	20	20	19	19	16	18	21	3142	10
<b>Lerwick - Pump 1</b>	20	18	19	20	21	20	20	2959	10
<b>Nairn - Pump 1</b>	20	19	19	19	19	18	18	2864	10
<b>Thurso - Pump 1</b>	19	19	19	17	18	18	21	2539	10
<b>Stornoway - Pump 1</b>	19	23	14	28	20	19	18	1659	10
Tain	12	12	12	11	12	11	11	1483	10
<b>Grantown - Pump 1</b>	19	18	18	18	19	19	19	1200	10
Aviemore	13	11	12	12	13	12	12	1091	10
Golspie	12	12	12	11	12	12	12	1014	10
Portree	12	12	12	12	11	12	12	866	10
Fortrose	11	10	10	12	11	10	11	830	10
Kingussie	11	11	11	12	12	12	11	673	10
Ullapool	14	14	14	14	14	14	14	659	10
<b>Stromness - Pump 1</b>	20	19	18	18	19	18	18	656	10
Dornoch	11	11	11	11	12	12	12	633	10
Kyle of Lochalsh	12	12	12	12	12	12	11	528	10
Mallaig	10	11	12	12	13	12	11	502	10
Benbecula	13	13	13	13	14	14	15	397	10
Broadford	12	12	12	11	10	11	11	376	10
Shawbost	10	11	11	11	12	10	12	372	10
Fort Augustus	12	12	11	11	11	11	11	362	10
Castlebay	11	12	10	12	12	10	12	338	10
Whalsay	12	10	12	12	11	13	13	320	10
<b>Kinlochleven - Pump 1</b>	18	16	18	17	16	17	16	312	10
Lochinver	11	12	13	11	10	12	12	284	10
Tarbert	11	11	12	12	12	12	12	271	10
Lochboisdale	12	11	11	11	11	11	11	223	10
Scalloway	12	12	13	13	13	12	11	221	10
Baltasound	11	12	11	10	11	11	11	192	10
<b>Brae - Pump 1</b>	19	19	19	19	18	16	18	168	10
John O'Groats	9	10	9	11	10	10	11	161	10
Dunbeath	13	11	12	11	11	9	12	155	10
Dunvegan	10	9	10	12	11	12	12	149	10
Strontian	11	11	13	12	12	11	10	125	10
Sumburgh	12	12	12	11	10	11	11	115	10
Sandwick	12	14	14	12	12	12	13	111	10
Walls	12	10	12	12	11	11	11	96	10
Bixter	10	10	11	11	11	10	10	78	10
Great Bernera	9	11	11	11	11	11	11	60	10
Durness	9	10	11	11	11	11	11	57	10
Skerries	13	14	9	10	10	9	11	26	10
Hillswick	12	12	13	12	12	12	11	19	10

## APPENDIX C

Station Name	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	To Sep 2008	Potential Day Cover Recruits	Comparative Grading Score
<b>Fort William - Pump 2</b>	20	19	20	20	19	19	20	4779	<b>9</b>
<b>Dingwall - Pump 2</b>	20	20	19	23	21	21	20	3203	<b>9</b>
<b>Lerwick - Pump 2</b>	20	18	19	20	21	20	20	2959	<b>9</b>
Gairloch	9	9	9	9	10	9	10	439	<b>9</b>
Lairg	12	12	12	12	10	10	10	250	<b>9</b>
Bettyhill	9	10	10	9	10	8	10	243	<b>9</b>
Lochcarron	8	9	10	9	10	10	10	234	<b>9</b>
Stronsay	10	10	9	9	9	11	11	137	<b>9</b>
Beaully	11	12	10	10	11	10	10	119	<b>9</b>
Staffin	9	8	9	10	11	11	10	110	<b>9</b>
Acharacle	11	11	8	10	10	10	10	102	<b>9</b>
Achiltibuie	11	11	9	9	10	10	10	61	<b>9</b>
Longhope	9	9	10	9	10	9	10	49	<b>9</b>
Leverburgh	10	10	10	11	9	10	10	15	<b>9</b>
<b>Wick - Pump 2</b>	20	21	20	20	20	19	19	3321	<b>8</b>
<b>Kirkwall - Pump 2</b>	20	20	19	19	16	18	21	3142	<b>8</b>
<b>Thurso - Pump 2</b>	19	19	19	17	18	18	21	2539	<b>8</b>
Helmsdale	10	9	10	12	12	11	10	220	<b>8</b>
Kinlochbervie	12	11	12	11	11	9	9	137	<b>8</b>
Lochaline	7	7	7	9	9	10	10	105	<b>8</b>
Glenelg	10	10	9	9	9	10	10	64	<b>8</b>
Applecross	6	6	8	7	8	10	10	57	<b>8</b>
Scourie	9	10	11	9	9	9	10	50	<b>8</b>
<b>Grantown - Pump 2</b>	19	18	18	18	19	19	19	1200	<b>7</b>
Drumnadrochit	10	10	10	9	11	10	9	540	<b>7</b>
Port of Ness	11	11	11	10	11	9	9	276	<b>7</b>
Aultbea	8	8	9	9	8	8	9	229	<b>7</b>
Uig	9	7	10	10	10	10	9	144	<b>7</b>
Westray	9	8	7	9	9	10	9	133	<b>7</b>
Valtos	9	9	11	8	9	7	9	83	<b>7</b>
Scalpay	8	11	10	10	10	10	9	82	<b>7</b>
Bayhead	9	7	7	9	8	7	9	76	<b>7</b>
South Lochs	10	10	11	10	8	9	9	74	<b>7</b>
Rousay	9	8	8	8	9	9	9	43	<b>7</b>
Eday	7	7	8	10	10	9	9	36	<b>7</b>
Fetlar	9	9	9	9	9	9	9	16	<b>7</b>
Sanday	9	6	6	5	6	7	9	46	<b>6</b>
<b>Nairn - Pump 2</b>	20	19	19	19	19	18	18	2864	<b>5</b>
<b>Stornoway - Pump 2</b>	19	23	14	28	20	19	18	1659	<b>5</b>
<b>Stromness - Pump 2</b>	20	19	18	18	19	18	18	656	<b>5</b>
<b>Brae - Pump 2</b>	19	19	19	19	18	16	18	168	<b>5</b>
Tongue	8	7	7	8	8	8	8	146	<b>5</b>
Bressay	8	8	9	9	9	8	8	129	<b>5</b>
Foyers	9	9	7	7	6	7	8	111	<b>5</b>
Cannich	9	8	7	9	7	8	8	91	<b>5</b>
Mid Yell	10	10	10	9	9	9	8	79	<b>5</b>
Kilchoan	8	8	9	8	8	9	8	75	<b>5</b>
Shapinsay	8	8	7	6	8	8	8	59	<b>5</b>
Lochmaddy	7	6	7	6	9	9	8	48	<b>5</b>

Station Name	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	To Sep 2008	Potential Day Cover Recruits	Comparative Grading Score
North Ronaldsay	10	9	9	9	9	8	8	23	5
Bonar Bridge	9	9	11	11	9	9	7	352	4
Raasay	8	8	7	7	7	7	7	44	3
Kinlochewe	8	6	5	5	7	6	7	35	3
<b>Invergordon - Pump 2</b>	20	20	19	19	18	16	16	3612	2
<b>Kinlochleven - Pump 2</b>	18	16	18	17	16	17	16	312	2
St Margaret's Hope	9	9	9	9	8	8	7	217	2
Torridon	18	13	13	9	11	9	7	97	2
Fair Isle	10	10	10	9	7	5	6	19	2
Foula	11	11	7	7	6	3	3	26	1
Flotta	6	7	6	5	4	4	4	22	1
Papa Westray	10	10	9	9	9	8	5	15	1

**Table C4. Establishment for CRUs (RTC/Wildfire Only) since taking up their New Role in 2005**

Station Name	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	To Sep 2008	Potential Day Cover Recruits	Comparative Grading Score
Newtonmore				10	9	11	11	451	10
Carrbridge				10	11	11	11	354	10
Lybster				7	10	9	9	225	7
Spean Bridge				9	9	9	9	113	7
Balintore				7	8	8	8	375	5
Cromarty				6	6	8	8	296	5
Sleat				6	8	8	7	99	3
Ratagan				9	8	6	6	32	2

**Table D1 Crew Confidence Scoring**

Score	Reason
0	Stations attending all calls
1	Stations failing to attend between 1% - 10% of all calls
2	Stations failing to attend between 11% - 20% of all calls
3	Stations failing to attend between 21% - 30% of all calls
4	Stations failing to attend between 31% - 40% of all calls
5	Stations failing to attend between 41% - 50% of all calls
6	Stations failing to attend between 51% - 60% of all calls
7	Stations failing to attend between 61% - 70% of all calls
8	Stations failing to attend between 71% - 80% of all calls
9	Stations failing to attend between 81% - 90% of all calls
10	Stations failing to attend between 91% - 100% of all calls

**Table D2 and D3 Crew Confidence Levels Key****Key to coloured dots assigned to station**

Dot Colour	No attendance %
	75%+ of incidents
	50% - 74% of incidents
	31% - 49% of incidents
	21% - 30% of incidents
	11% - 20% of incidents
	Up to 10% of incidents
	Stations Achieving all calls
	No Calls Received

**Key to coloured dots assigned to station**

Dot Order	Reporting Period
First	April 2006 to March 2007
Second	April 2007 to September 2007
Third	October 2007 to March 2008
Fourth	April 2008 to September 2008

Please Note: The total number of calls and failures covers the period 1<sup>st</sup> April 2006 to 30<sup>th</sup> September 2008. The coloured dots in the history column relate to the key colourings and depict a history of migration of stations from columns in the Sustainability Analysis Report. A black dot signifies no calls and a green dot represents stations fully achieving Crew Confidence Levels.

**Table D2 Crew Confidence from April 2006 to September 2008 (Retained)****1st Appliance**

Station	Failed	Total No of Calls Inc Standby	Overall %age Failure	Score	History
North Ronaldsay	0	0	-	No Calls	●●●●
Skerries	0	0	-	No Calls	●●●●
Foula	4	4	100	10	●●●●
Fair Isle	4	5	80	9	●●●●
Flotta	2	3	67	7	●●●●
Cannich	21	40	53	6	●●●●
Lochmaddy	20	44	45	5	●●●●
Bixter	7	17	41	5	●●●●
Foyers	20	49	41	5	●●●●
Kinlochewe	10	28	36	4	●●●●
Walls	3	9	33	4	●●●●
Raasay	4	13	31	4	●●●●
Aultbea	23	75	31	4	●●●●
Glenelg	5	17	29	3	●●●●
St Margaret's Hope	8	30	27	3	●●●●
Bayhead	14	56	25	3	●●●●
Sanday	3	12	25	3	●●●●
Applecross	2	8	25	3	●●●●
Bettyhill	15	64	23	3	●●●●
Hillswick	2	9	22	3	●●●●
Valtos	3	14	21	3	●●●●
Westray	3	14	21	3	●●●●
Torridon	5	24	21	3	●●●●
Longhope	2	10	20	2	●●●●
Staffin	6	33	18	2	●●●●
Baltasound	4	22	18	2	●●●●
Sumburgh	8	56	14	2	●●●●
Dunbeath	8	62	13	2	●●●●
Tongue	6	46	13	2	●●●●
Sandwick	8	63	13	2	●●●●
Kilchoan	1	8	13	2	●●●●
Mid Yell	3	24	13	2	●●●●
Scourie	7	57	12	2	●●●●
Uig	12	105	11	2	●●●●
Lochaline	1	9	11	2	●●●●
Achiltibuie	3	27	11	2	●●●●
Bonar Bridge	12	123	10	1	●●●●
John O' Groats	4	47	9	1	●●●●
Acharacle	8	88	9	1	●●●●
South Lochs	4	47	9	1	●●●●
Drumnadrochit	11	138	8	1	●●●●
Leverburgh	2	27	7	1	●●●●
Gairloch	7	96	7	1	●●●●
Dunvegan	6	84	7	1	●●●●
Fortrose	9	151	6	1	●●●●
Kinlochleven	9	155	6	1	●●●●

Station	Failed	Total No of Calls Inc Standby	Overall %age Failure	Score	History
Beauly	16	282	6	1	●●●●●
Inverness Retained	56	1075	5	1	●●●●●
Scalpay	2	40	5	1	●●●●●
Durness	1	22	5	1	●●●●●
Great Bernera	2	48	4	1	●●●●●
Dingwall	12	379	3	1	●●●●●
Helmsdale	3	98	3	1	●●●●●
Lochcarron	2	66	3	1	●●●●●
Lairg	3	118	3	1	●●●●●
Kinlochbervie	1	40	3	1	●●●●●
Aviemore	7	403	2	1	●●●●●
Nairn	6	348	2	1	●●●●●
Shawbost	4	186	2	1	●●●●●
Lochboisdale	1	63	2	1	●●●●●
Castlebay	1	44	2	1	●●●●●
Golspie	3	210	1	1	●●●●●
Invergordon	3	356	1	1	●●●●●
Thurso	2	265	1	1	●●●●●
Lerwick	2	229	1	1	●●●●●
Tain	2	346	1	1	●●●●●
Fort Augustus	1	180	1	1	●●●●●
Broadford	2	179	1	1	●●●●●
Kirkwall	2	207	1	1	●●●●●
Stornoway	2	482	0	0	●●●●●
Wick	1	249	0	0	●●●●●
Portree	1	293	0	0	●●●●●
Grantown-On-Spey	1	322	0	0	●●●●●
Fort William	1	460	0	0	●●●●●
Fetlar	0	2	0	0	●●●●●
Papa Westray	0	2	0	0	●●●●●
Bressay	0	5	0	0	●●●●●
Stronsay	0	6	0	0	●●●●●
Eday	0	7	0	0	●●●●●
Rousay	0	8	0	0	●●●●●
Shapinsay	0	12	0	0	●●●●●
Whalsay	0	12	0	0	●●●●●
Brae	0	43	0	0	●●●●●
Scalloway	0	54	0	0	●●●●●
Port of Ness	0	63	0	0	●●●●●
Lochinver	0	67	0	0	●●●●●
Tarbert	0	67	0	0	●●●●●
Strontian	0	82	0	0	●●●●●
Ullapool	0	115	0	0	●●●●●
Stromness	0	119	0	0	●●●●●
Mallaig	0	121	0	0	●●●●●
Benbecula	0	200	0	0	●●●●●
Kyle of Lochalsh	0	222	0	0	●●●●●
Kingussie	0	242	0	0	●●●●●
Dornoch	0	317	0	0	●●●●●
	<b>459</b>	<b>10,769</b>			

**Table D2 Continued****2<sup>nd</sup> Appliance**

Station	Failed	Total No of Calls Inc Standby	Overall %age Failure	Score	History
Grantown-On-Spey	25	127	20	2	
Nairn	43	262	16	2	
Invergordon	85	520	16	2	
Brae	10	67	15	2	
Stromness	15	126	12	2	
Kinlochleven	25	255	10	1	
Kirkwall	20	234	9	1	
Lerwick	16	238	7	1	
Dingwall	50	687	7	1	
Thurso	15	252	6	1	
Stornoway	34	552	6	1	
Wick	19	351	5	1	
Fort William	19	729	3	1	
	<b>376</b>	<b>4400</b>			

**Table D3 Crew Confidence from April 2006 to September 2008 (CRU – RTC/Wildfire Only Role)**

Station	Failed	Total No of Calls Inc Standby	Overall %age Failure	Score	History
Ratagan	19	20	95	9	
Sleat	1	2	50	5	
Balintore	7	35	20	2	
Spean Bridge	13	64	20	2	
Lybster	3	27	11	2	
Cromarty	1	13	8	1	
Carrbridge	3	57	5	1	
Newtonmore	0	70	0	0	
	<b>47</b>	<b>288</b>			

Table E1 Spreadsheet of Combined Sustainability Score – Retained

Retained Station Name	FSEC Years Per Additional Lives Saved Score	Potential Day Cover Recruits Score	Current Establishment Score	FSEC Years + Potential Day Cover Score + Current Establishment Score	Crew Confidence Score (-VE)	Combined Sustainability Score
Fort William - Pump 1	20	10	10	40	0	40
Stornoway - Pump 1	20	10	10	40	0	40
Wick - Pump 1	20	10	10	40	0	40
Invergordon - Pump 1	20	10	10	40	1	39
Inverness Retained	20	10	10	40	1	39
Nairn - Pump 1	20	10	10	40	1	39
Thurso - Pump 1	20	10	10	40	1	39
Kirkwall - Pump 1	19	10	10	39	1	38
Grantown - Pump 1	18	10	10	38	0	38
Dingwall - Pump 1	18	10	10	38	1	37
Lerwick - Pump 1	18	10	10	38	1	37
Aviemore	17	10	10	37	1	36
Tain	17	10	10	37	1	36
Fort William - Pump 2	16	10	9	35	1	34
Kingussie	16	8	10	34	0	34
Golspie	15	10	10	35	1	34
Portree	15	9	10	34	0	34
Wick - Pump 2	16	10	8	34	1	33
Thurso - Pump 2	16	10	8	34	1	33
Stromness - Pump 1	15	8	10	33	0	33
Kirkwall - Pump 2	15	10	8	33	1	32
Dornoch	14	8	10	32	0	32
Kyle of Lochalsh	14	8	10	32	0	32
Fortrose	14	9	10	33	1	32
Lerwick - Pump 2	14	10	9	33	1	32
Dingwall - Pump 2	13	10	9	32	1	31
Ullapool	13	8	10	31	0	31
Stornoway - Pump 2	17	9	5	31	1	30
Nairn - Pump 2	16	10	5	31	2	29
Kinlochleven - Pump 1	14	6	10	30	1	29
Grantown - Pump 2	15	8	7	30	2	28
Drumnadrochit	14	8	7	29	1	28
Benbecula	12	6	10	28	0	28
Mallaig	10	8	10	28	0	28
Broadford	12	6	10	28	1	27
Invergordon - Pump 2	16	10	2	28	2	26
Beauly	14	4	9	27	1	26
Brae - Pump 1	12	4	10	26	0	26
Strontian	12	4	10	26	0	26
Castlebay	11	6	10	27	1	26
Fort Augustus	11	6	10	27	1	26
Shawbost	11	6	10	27	1	26
Helmsdale	13	5	8	26	1	25
Tarbert	10	5	10	25	0	25
Scalloway	10	5	10	25	0	25
Whalsay	9	6	10	25	0	25
Port of Ness	12	5	7	24	0	24
Lairg	11	5	9	25	1	24
Lochboisdale	10	5	10	25	1	24
Lochinver	9	5	10	24	0	24
Gairloch	9	7	9	25	1	24
Sandwick	11	4	10	25	2	23
Dunvegan	10	4	10	24	1	23
Dunbeath	10	4	10	24	2	22
Lochcarron	9	5	9	23	1	22

## APPENDIX E

Retained Station Name	FSEC Years Per Additional Lives Saved Score	Potential Day Cover Recruits Score	Current Establishment Score	FSEC Years + Potential Day Cover Score + Current Establishment Score	Crew Confidence Score (-VE)	Combined Sustainability Score
<b>Stromness - Pump 2</b>	12	6	5	23	2	21
Staffin	10	4	9	23	2	21
Baltasound	9	4	10	23	2	21
John O'Groats	8	4	10	22	1	21
Bonar Bridge	11	6	4	21	1	20
Sumburgh	8	4	10	22	2	20
Uig	10	4	7	21	2	19
Kinlochbervie	8	4	8	20	1	19
Acharacle	7	4	9	20	1	19
Bettyhill	7	5	9	21	3	18
Stronsay	5	4	9	18	0	18
Aultbea	9	5	7	21	4	17
Leverburgh	8	1	9	18	1	17
Great Bernera	5	3	10	18	1	17
Walls	7	3	10	20	4	16
<b>Kinlochleven - Pump 2</b>	10	4	2	16	1	15
<b>Brae - Pump 2</b>	9	3	5	17	2	15
Bayhead	8	3	7	18	3	15
Hillswick	7	1	10	18	3	15
Westray	7	4	7	18	3	15
Bressay	6	4	5	15	0	15
Longhope	6	2	9	17	2	15
Scalpay	6	3	7	16	1	15
Lochaline	5	4	8	17	2	15
Durness	3	3	10	16	1	15
St Margaret's Hope	9	5	2	16	3	13
Mid Yell	7	3	5	15	2	13
South Lochs	4	3	7	14	1	13
Achiltibuie	3	3	9	15	2	13
Shapinsay	4	3	5	12	0	12
Bixter	4	3	10	17	5	12
Scourie	4	2	8	14	2	12
Eday	3	2	7	12	0	12
Skerries	0	2	10	12	No Calls	12
Lochmaddy	9	2	5	16	5	11
Foyers	7	4	5	16	5	11
Sanday	6	2	6	14	3	11
Fetlar	3	1	7	11	0	11
Applecross	3	3	8	14	3	11
Tongue	3	4	5	12	2	10
Rousay	1	2	7	10	0	10
North Ronaldsay	3	1	5	9	No Calls	9
Valtos	2	3	7	12	3	9
Glenelg	1	3	8	12	3	9
Kilchoan	1	3	5	9	2	7
Papa Westray	4	1	1	6	0	6
Cannich	3	3	5	11	6	5
Raasay	3	2	3	8	4	4
Torrison	0	3	2	5	3	2
Kinlochewe	0	2	3	5	4	1
Fair Isle	5	1	2	8	9	-1
Flotta	3	1	1	5	7	-2
Foula	0	2	1	3	10	-7

**Table E2 Spreadsheet of Combined Sustainability Score – CRU RTC/Wildfire Only**

CRU - RTC/Wildfire Station Name	FSEC Years Per Additional Lives Saved Score	Potential Day Cover Recruits Score	Establishment Score	FSEC Years + Potential Day Cover Score + Current Establishment Score	Crew Confidence Score (-VE)	Combined Sustainability Score
Newtonmore	11	7	10	28	0	28
Carrbridge	12	6	10	28	1	27
Lybster	0	5	7	12	2	10
Spean Bridge	0	4	7	11	2	9
Balintore	0	6	5	11	2	9
Cromarty	0	5	5	10	1	9
Sleat	1	3	3	7	5	2
Ratagan	0	2	2	4	9	-5

**Table F1 Current Station Build Scoring Sheet**

<b>Building</b>	
n/a	0
New Build	0
Traditional	4
Lease	8
Older	12
Temp Steel	16

<b>Facilities</b>	
None	10
Water	8
Sink, Water	6
Toilet, Sink, Water	4
Shower, Toilet, Sink, Water	0

<b>Appliance</b>	
n/a	0
Type B	0
Midi	5
Midi - No HPHR	10
LFA	20

<b>Virtual</b>	
NA	0
No V	8
Sink	6
Toilet	4
Shower	0

Table F2 Current Building Score for Retained Stations

No	Station	Building Type	Vehicle that the Station Can Potentially Accommodate	Station Facilities	Virtual Station - Use of Alternative Facilities	Cumulative Score	Notes	Appliance Currently at Station
1	Foyers	Temp Steel	LFA	None	Sink	52	Use of Village Hall at Cost	LFA
2	Glenelg	Temp Steel	LFA	Water	No V	52	Stn Site purchased	LFA
3	Kinlochewe	Temp Steel	LFA	None	Toilet	50		LFA
4	John O Groats	Temp Steel	LFA	None	NA	46		LFA
5	North Ronaldsay	Temp Steel	LFA	None	NA	46		LFA
6	Torridon	Temp Steel	LFA	None	Shower	46		Midi - No HPHR
7	Staffin	Temp Steel	LFA	Water	NA	44	Station Site purchased	LFA
8	Flotta	Older	LFA	None	NA	42		LFA
9	Sandwick	Older	LFA	None	NA	42	Station Site purchased	LFA
10	Fair Isle	Older	LFA	None	NA	42	Concrete small garage type building	Midi
11	Hillswick	Older	LFA	Water	NA	40		LFA
12	Lochaline	Older	LFA	Water	NA	40		LFA
13	Walls	Older	LFA	Water	NA	40	Corrugated steel Asbestos? & Timber Unit	LFA
14	Scalloway	Lease	LFA	None	NA	38		LFA
15	St Margaret's Hope	Older	LFA	Sink	NA	38		LFA
16	Stronsay	Older	LFA	Sink	NA	38	Station Site purchased	LFA
17	Rousay	New Build	LFA	None	Sink	36	New Build underway	LFA
18	Fetlar	Older	LFA	Toilet	NA	36	Former industrial unit	LFA
19	Westray	Older	LFA	Toilet	NA	36		LFA
20	Tongue	New Build	LFA	None	NA	30	New Build underway	LFA
21	Whalsay	Older	Midi	Water	NA	25	Lease Site identified	LFA
22	Lochboisdale	Older	Type B	Water	Toilet	24	Station Site purchased	Type B
23	Acharacle	Older	Midi	Toilet	NA	21		LFA
24	Cannich	Older	Midi	Toilet	NA	21		LFA
25	Eday	Older	Midi	Toilet	NA	21		LFA
26	Foula	Older	Midi	Toilet	NA	21		LFA
27	Kilchoan	Older	Midi	Toilet	NA	21		LFA
28	Raasay	Older	Midi	Toilet	NA	21		LFA
29	Sanday	Older	Midi	Toilet	NA	21	Station Site purchased	LFA
30	Scalpay	Older	Midi	Toilet	NA	21		LFA
31	Shapinsay	Older	Midi	Toilet	NA	21		LFA
32	Skerries	Older	Midi	Toilet	NA	21		LFA
33	Applecross	Older	Midi	Toilet	NA	21		Midi
34	Bressay	Lease	Type B	None	NA	18	Arrangements underway to improve facilitates	LFA

APPENDIX F

No	Station	Building Type	Vehicle that the Station Can Potentially Accommodate	Station Facilities	Virtual Station - Use of Alternative Facilities	Cumulative Score	Notes	Appliance Currently at Station
35	Bayhead	Lease	Midi	Toilet	NA	17		LFA
36	Bonar Bridge	Older	Midi	Shower	NA	17		LFA
37	Baltasound	Older	Type B	Toilet	NA	16	Newly acquired site in the process of moving	LFA
38	Bettyhill	Older	Type B	Toilet	NA	16		Type B
39	Leverburgh	Older	Type B	Toilet	NA	16		Type B
40	South Lochs	Older	Type B	Toilet	NA	16		Type B
41	Bixter	Lease	Type B	Toilet	NA	12		Type B
42	Uig	Lease	Type B	Toilet	NA	12		Type B
43	Strontian	Traditional	Type B	Shower	NA	4		Midi
44	Aviemore	Traditional	Type B	Shower	NA	4		Type B
45	Benbecula	Traditional	Type B	Shower	NA	4		Type B
46	Brae	Traditional	Type B	Shower	NA	4		Type B
47	Broadford	Traditional	Type B	Shower	NA	4		Type B
48	Castlebay	Traditional	Type B	Shower	NA	4		Type B
49	Dingwall	Traditional	Type B	Shower	NA	4		Type B
50	Dornoch	Traditional	Type B	Shower	NA	4		Type B
51	Ft Augustus	Traditional	Type B	Shower	NA	4		Type B
52	Gairloch	Traditional	Type B	Shower	NA	4		Type B
53	Golspie	Traditional	Type B	Shower	NA	4		Type B
54	Grantown	Traditional	Type B	Shower	NA	4		Type B
55	Invergordon	Traditional	Type B	Shower	NA	4		Type B
56	Inverness	Traditional	Type B	Shower	NA	4		Type B
57	Kingussie	Traditional	Type B	Shower	NA	4		Type B
58	Kinlochleven	Traditional	Type B	Shower	NA	4		Type B
59	Kirkwall	Traditional	Type B	Shower	NA	4		Type B
60	Kyle	Traditional	Type B	Shower	NA	4		Type B
61	Lairg	Traditional	Type B	Shower	NA	4		Type B
62	Mallaig	Traditional	Type B	Shower	NA	4		Type B
63	Nairn	Traditional	Type B	Shower	NA	4		Type B
64	Portree	Traditional	Type B	Shower	NA	4		Type B
65	Stornoway	Traditional	Type B	Shower	NA	4		Type B
66	Stromness	Traditional	Type B	Shower	NA	4		Type B
67	Tain	Traditional	Type B	Shower	NA	4		Type B
68	Thurso	Traditional	Type B	Shower	NA	4		Type B
69	Ullapool	Traditional	Type B	Shower	NA	4		Type B
70	Wick	Traditional	Type B	Shower	NA	4		Type B

APPENDIX F

No	Station	Building Type	Vehicle that the Station Can Potentially Accommodate	Station Facilities	Virtual Station - Use of Alternative Facilities	Cumulative Score	Notes	Appliance Currently at Station
71	Aultbea	New Build	Type B	Shower	NA	0	New Station Built - Not yet handed over	LFA
72	Lochmaddy	New Build	Type B	Shower	NA	0		LFA
73	Longhope	New Build	Type B	Shower	NA	0		LFA
74	Papa Westray	New Build	Type B	Shower	NA	0		LFA
75	Valtos	New Build	Type B	Shower	NA	0		LFA
76	Achiltibuie	New Build	Type B	Shower	NA	0		Midi - No HPHR
77	Kinlochbervie	New Build	Type B	Shower	NA	0		Midi
78	Lochinver	New Build	Type B	Shower	NA	0		Midi
79	Tarbert	New Build	Type B	Shower	NA	0		Midi
80	Ness	New Build	Type B	Shower	NA	0		Midi
81	Drumnadrochit	New Build	Type B	Shower	NA	0		Type B
82	Fort William	New Build	Type B	Shower	NA	0		Type B
83	Fortrose	New Build	Type B	Shower	NA	0		Type B
84	Lerwick	New Build	Type B	Shower	NA	0		Type B
85	Beaully	New Build	Type B	Shower	NA	0		Type B
86	Dunbeath	New Build	Type B	Shower	NA	0		Type B
87	Dunvegan	New Build	Type B	Shower	NA	0		Type B
88	Durness	New Build	Type B	Shower	NA	0		Type B
89	Great Bernera	New Build	Type B	Shower	NA	0		Type B
90	Helmsdale	New Build	Type B	Shower	NA	0		Type B
91	Lochcarron	New Build	Type B	Shower	NA	0		Type B
92	Mid yell	New Build	Type B	Shower	NA	0		Type B
93	Scourie	New Build	Type B	Shower	NA	0		Type B
94	Shawbost	New Build	Type B	Shower	NA	0		Type B
95	Sumburgh	New Build	Type B	Shower	NA	0		Type B

Table F3 Current Building Score for CRUs

No	Station	Building Type	Vehicle that the Station Can Potentially Accommodate	Station Facilities	Virtual Station - Use of Alternative Facilities	Cumulative Score	Notes	Appliance Currently at Station
1	Lybster	Older	LFA	None	NA	42		LFA
2	Minginish	Lease	LFA	None	Toilet	42		LFA
3	Nethybridge	Lease	LFA	None	Toilet	42	Hotel for toilet arrangements	LFA
4	Ratagan	Lease	LFA	None	NA	38		LFA
5	Boat of Garten	Lease	LFA	Water	NA	36		LFA
6	Sleat	Lease	LFA	Water	NA	36		LFA
7	Carrbridge	New Build	LFA	None	Toilet	34	New Build without facilities	LFA
8	Balintore	Lease	LFA	Toilet	NA	32		LFA
9	Cromarty	Lease	LFA	Toilet	NA	32		LFA
10	Spean Bridge	New Build	LFA	Water	Toilet	32	New build without facilities	LFA
11	Eigg	n/a	n/a	None	Toilet	14	Trailer Unit	Trailer
12	Newtonmore	Lease	Type B	Toilet	NA	12		LFA
13	Ardgour	n/a	n/a	None	NA	10	This unit has no Stn at all and is not on the run	
14	Glenborrodale	n/a	n/a	None	NA	10	This unit has no Stn at all and is not on the run	
15	Glenuig	n/a	n/a	None	NA	10	This unit has no Stn at all and is not on the run	
16	Knoydart	n/a	n/a	None	NA	10	Trailer Unit	Trailer
17	Muck	n/a	n/a	None	NA	10	Trailer Unit	Trailer
18	Papa Stour	n/a	n/a	None	NA	10	Trailer Only - Not on the run	Trailer

**Table G1 Stations With No High Pressure Hose Reels****Highland**

Station Name	Station Code
Acharacle	A21
Achiltibuie	B42
Aultbea	B44
Bonar Bridge	C52
Cannich	A39
Foyers	A27
Glenelg	B47
John O'Groats	C45
Kilchoan	A23
Kinlochewe	B41
Lochaline	A25
Raasay	B54
Staffin	B56
Tongue	C50
Torridon	B20

**Western Isles**

Station Name	Station Code
Bayhead	B21
Lochmaddy	B28
Scalpay	B30
Valtos	B33

**Orkney**

Station Name	Station Code
Eday	C20
Flotta	C42
Longhope	C21
North Ronaldsay	C44
Papa Westray	C59
Rousay	C22
Sanday	C23
Shapinsay	C26
St Margaret's Hope	C24
Stronsay	C25
Westray	C27

**Shetland**

Station Name	Station Code
Baltasound	C28
Bressay	C30
Fetlar	C32
Foula	C46
Hillswick	C34
Sandwick	C37
Scalloway	C38
Skerries	C47
Walls	C40
Whalsay	C41

**Table H1 Sustainability Score for all Stations Without High Pressure Hose Reel Equipment**







Station Name	Overall sustainability Score
Scalloway	25
Whalsay	25
Sandwick	23
Staffin	21
Baltasound	21
John O'Groats	21
Bonar Bridge	20
Acharacle	19
Stronsay	18
Aultbea	17

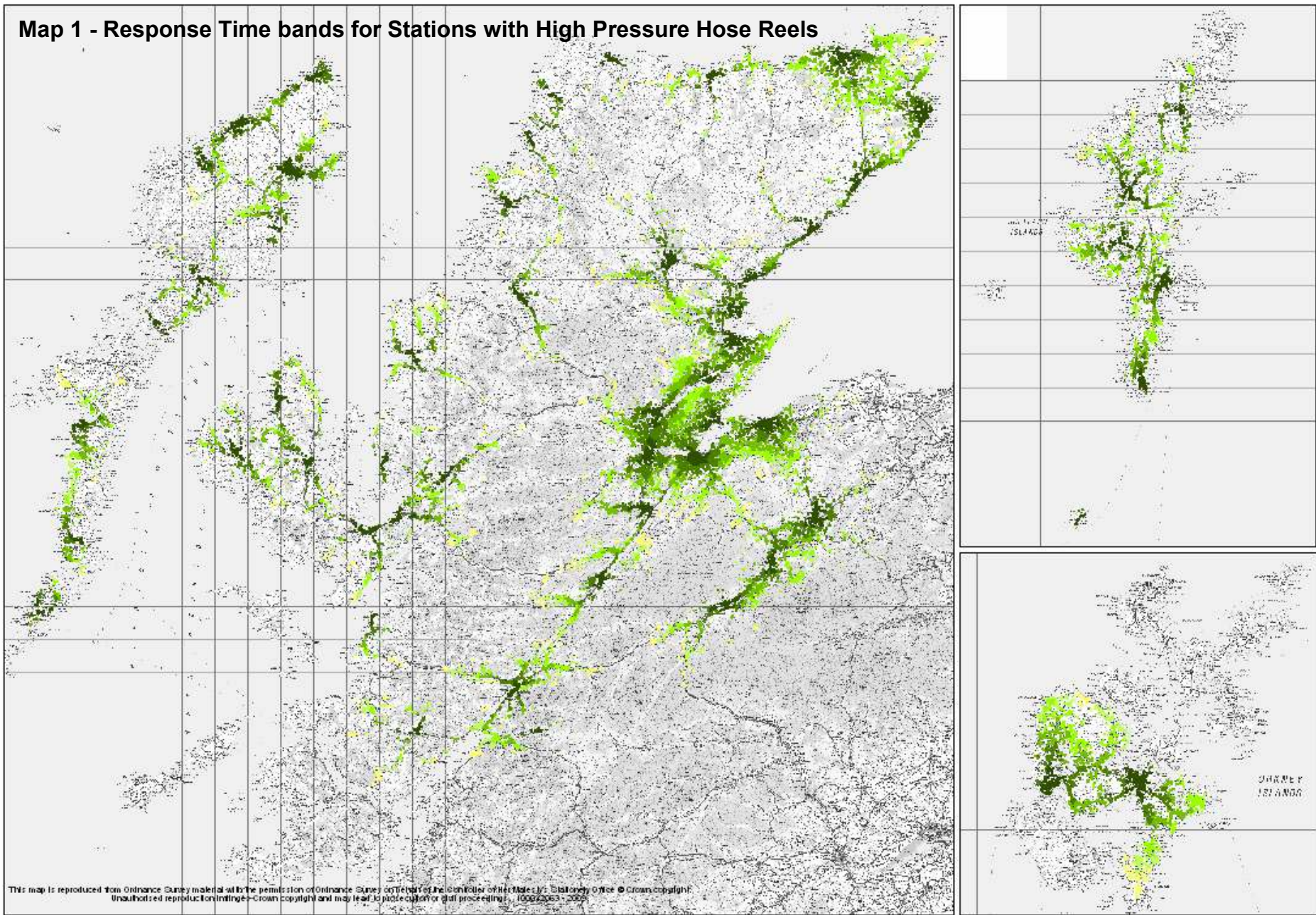
**Stations requiring further investigation during Stage 3**

Walls	16
Bressay	15
Lochaline	15
Bayhead	15
Scalpay	15
Longhope	15
Westray	15
Hillswick	15
Achiltibuie	13
St Margaret's Hope	13
Eday	12
Shapinsay	12
Skerries	12
Lochmaddy	11
Sanday	11
Fetlar	11
Foyers	11
Rousay	10
Tongue	10
Glenelg	9
Valtos	9
North Ronaldsay	9
Kilchoan	7
Papa Westray	6
Cannich	5
Raasay	4
Torridon	2
Kinlochewe	1
Flotta	-2
Foula	-7

**Map 1 Key - Response Time Bands for Stations With High Pressure Hose Reels**

The map illustrates the map junctions that can be reached in defined periods as utilised by the FSEC software

	5 Minute Response
	10 Minute Response
	15 Minute Response
	20 Minute Response
	25 Minute Response
	30 Minute Response



**Table I1 Travel Times from Adjacent Stations**

**CRUs**

**Stations with No HPHR**

Station (with no HPHR)*	1st Closest Station		2nd Closest Station		3rd Closest Station		4th Closest Station		5th Closest Station		6th Closest Station		7th Closest Station	
	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)
Scalloway	Lerwick	9.28	Hamnavoe	9.66	Sandwick	21.84	Bixter	25.74						
Whalsay	Brae	Island Loc	Mossbank	Island Loc	Bixter	Island Loc								
Sandwick	Sumburgh	18.34	Lerwick	20.42										
Staffin	Uig	20.36	Portree	25.17										
Baltasound	Mid Yell	Island Loc	Mossbank	Island Loc	Brae	Island Loc								
Bonar Bridge	Lairg	16.46	Dornoch	19.86										
John O'Groats	Wick	25.3	Thurso	29.71										
Acharacle	Glenborrodale	16.26	Glenuig	17	Strontian	18.39	Ardgour	39.44	Kilchoan	44.08	Lochaline	47.71	Mallaig	58.37
Stonsay	Kirkwall	Island Loc	St Mar Hope	Island Loc	Stromness	Island Loc								
Aultbea	Gairloch	19.52	Kinlochewe	49.13	Torridon	62.86	Ullapool	66.17						
Walls	Bixter	10.98	Scalloway	36.72	Lerwick	39.05								
Bressay	Lerwick	Island Loc	Scalloway	Island Loc	Hamnavoe	Island Loc	Sandwick	Island Loc	Bixter	Island Loc				
Lochaline	Strontian	30.58	Ardgour	46.13	Acharacle	47.71	Glenborrodale	56.81	Glenuig	64.17	Kilchoan	84.63	Fort William	96.33
Bayhead	Lochmaddy	19.81	Benbecula	25.01	Berneray	37.03	Lochboisdale	58.45						
Scalpay	Tarbert	15.41	Leverburgh	45.65										
Longhope	St Mar Hope	Island Loc	Kirkwall	Island Loc	Stromness	Island Loc								
Westray	Kirkwall	Island Loc	Stromness	Island Loc										
Hillswick	Brae	17.16	Mossbank	34.43	Bixter	46.31								
Eday	Kirkwall	Island Loc	St Mar Hope	Island Loc	Stromness	Island Loc								
Shapinsay	Kirkwall	Island Loc	Stromness	Island Loc										
Achiltibuie	Lochinver	46.07	Ullapool	50.62										
Lochmaddy	Bayhead	19.81	Berneray	22.36	Benbecula	29.38	Lochboisdale	62.82						

\* From Table H1

Station (with no HPHR)*	1st Closest Station		2nd Closest Station		3rd Closest Station		4th Closest Station		5th Closest Station		6th Closest Station		7th Closest Station	
	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)	Station Name	Travel Time to Station (mins)
St Margaret's Hope	Kirkwall	22.28	Stromness	44.22										
Skerries	Whalsay	Island Loc	Brae	Island Loc	Mossbank	Island Loc	Bixter	Island Loc						
Rousay	Evie	Island Loc	Kirkwall	Island Loc	Stromness	Island Loc								
Sanday	Kirkwall	Island Loc	St Mar Hope	Island Loc	Stromness	Island Loc								
Fetlar	Mid Yell	Island Loc	Mossbank	Island Loc	Brae	Island Loc								
Foyers	Fort Augustus	27.73	Inverness	43.26										
Glenelg	Ratagan	19.31	Kyle of Loch	45.42	Kyleakin	48.94	Broadford	57.52						
Tongue	Bettyhill	20.58	Durness	45.03										
Valtos	Great Bernera	44.47	Stornoway	58.51										
North Ronaldsay	Kirkwall	Island Loc	St Mar Hope	Island Loc	Stromness	Island Loc								
Kilchoan	Glenborrodale	27.82	Acharacle	44.08	Strontian	55.31	Glenuig	60.54	Ardgour	76.36	Lochaline	84.63	Mallaig	101.91
Cannich	Drumnadrochit	18.1	Beauly	26.69										
Papa Westray	Kirkwall	Island Loc	Stromness	Island Loc										
Raasay	Minginish	26.17	Portree	28.14	Broadford	30.11								
Kinlochewe	Torridon	16.55	Gairloch	32.19	Lochcarron	39.22								
Torridon	Kinlochewe	16.55	Lochcarron	33.07	Gairloch	45.92								
Flotta	Kirkwall	Island Loc	Stromness	Island Loc										
Foula	Walls	Island Loc	Bixter	Island Loc	Scalloway	Island Loc	Lerwick	Island Loc						

\* From Table H1