

AWE

AWE Hydrus

DREAM Compliance

February 2010

Halcrow Yolles

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Halcrow Yolles

Burderop Park, Swindon, Wiltshire SN4 0QD
Tel +44 (0)1793 815603 Fax +44 (0)1793 815540
www.halcrow.com

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Contents Amendment Record

This report has been issued and amended as follows:

Rev	Description	Date	Author	Signed
0	First issue	13.10.2009	NCF	
1	Final issue for planning	29.01.2010	JGBA	
2	Final issue for planning (references amended)	10.06.10	NCF	

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1 Introduction

1.1 DREAM assessment process

Defence-related Environmental Assessment Method (DREAM) is an online environmental assessment tool, developed by Defence Estates (Property Directorate) and supported by IT Consultants **RED C**, for New Building and Refurbishment projects on the Defence Estate. It operates in a similar way to BREEM in the non-defence sectors and provides a tool, and a method of monitoring performance, to guide a project towards high levels of environmental performance.

AWE apply their own version of DREAM that relates to Process and Welfare Areas building functions. This reflects the unique characteristics of AWE operations within the same overall process applied across all Defence Estates buildings.

The DREAM assessment process uses a set of criteria with defined performance levels. Measuring the performance of a project against each criterion will reveal an overall assessment score and rating. The DREAM criteria are separated into four categories:

1. Survey stage
2. Design stage
3. Construction stage
4. Operation stage

Each stage contains a different set of criteria that are unique and appropriate to that stage. Within each stage, criteria are separated into the categories shown in Table 1. Similar categories are used for the Construction and Operation stages of the assessment.

Table 1 DREAM categories for assessment criteria

<u>SURVEY STAGE</u>	<u>DESIGN STAGE</u>
Biodiversity and Environmental Protection	Biodiversity and Environmental Protection
Energy	External Environmental Quality
Procurement	Energy
Travel	Internal Environmental Quality
Water	Procurement
Waste	Travel
	Water
	Waste

The overall performance within each stage is produced by combining the assessment scores within each category to give an overall score. This is then related to a rating for the building at each stage.

1.2 Requirements for planning

West Berkshire District Council require that all AWE projects within the district achieve an 'Excellent' rating using the DREAM assessment tool, which relates to a score of 70% or higher.

AWE require all their building projects to achieve an 'Excellent' rating at each DREAM stage – Survey, Design, etc – meaning that a score of 70% or higher must be achieved at each stage of the assessment.

1.3 Objectives of this report

This report sets out the details of DREAM AWE Process and Welfare compliance for the Survey stage and the commitment to DREAM compliance for the Design stage for the AWE project Hydrus. The assessment has been achieved by conducting assessments of the building designs and scheme proposals carried out by registered and licensed DREAM Assessors. It should be understood that the design is not yet at a stage where evidence of compliance can be provided, although this will emerge during the detailed design phases to come, and will be reported using the normal DREAM processes using registered and licensed assessors.

2 DREAM Compliance Summary

2.1 Survey stage

As qualified DREAM assessors, Halcrow Yolles can confirm that sufficient evidence has been received to support the award of an ‘Excellent’ rating against the DREAM AWE Process and Welfare Areas criteria at the Survey stage with the following scores:

- Process areas: 85.71% (‘Excellent’)
- Welfare areas: 85.71% (‘Excellent’)

2.2 Design stage

As qualified DREAM assessors, Halcrow Yolles can confirm that sufficient written commitments have been received from the design team to supply evidence as and when it is available to support the award of an ‘Excellent’ rating against the DREAM AWE Process and Welfare Areas criteria at the Design stage with the following scores:

- Process areas: 74.67% (‘Excellent’)
- Welfare areas: 79.75% (‘Excellent’)

As the detailed design is completed, the project team will submit evidence to the DREAM assessor in support of the commitments made in this document. While the details of compliance may vary slightly, the overall ‘Excellent’ rating will be achieved.

2.3 Construction stage

As the scheme progresses towards construction, the DREAM assessment process will continue to be applied to guide the project towards the appropriate performance standard as defined for the Construction stage. Commitment and evidence will be sought to support the assessment at that stage.

Appendix: DREAM Assessment Results

The DREAM assessment has been undertaken at the Survey and Design stages to demonstrate that the required performance level is achieved for AWE Hydrus. It should be noted that the Survey stage evidence is complete, while the Design stage evidence gathering is ongoing and will be completed as the detailed design progresses. Thus, the Design stage assessment sets out the commitments of the design team, and the strategy adopted to meeting the required performance.

The final route to achieving DREAM Design stage compliance may differ slightly from the strategy set out in this document, however, the overall rating will remain unchanged.

The assessments are summarised in the following tables:

- **Assessment Summary: Survey stage**

- **Assessment Summary: Design stage**

DREAM AWE Process and Welfare Areas (V3)

Project: Hydrus

Preliminary Assessment Summary

Sheet - Survey Stage

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Notes:

All official communication to be sent via the Environmental Manager at AWE.

All information shall be unclassified.

General queries can be sent direct to the DREAM assessor, keeping AWE copied in if via email.

Credit Title	CREDITS			Responsibility	Assessment notes	
	Credits Available	Welfare Excellent Score	Process Excellent Score			
BIODIVERSITY AND ENVIRONMENTAL PROTECTION						
S-BI 1	Brownfield Site	1	0	0	-	AWE confirmed in the DREAM deliverables list, draft C, that Project Hydrus is not located on a brownfield site and less than 50% of the site was previously occupied by hard-standing. A site plan was also provided which confirms this. Credit withheld.
S-BI 2	Land Contamination Survey	1	1	1	Env M	AWE provided several documents demonstrating that a systematic investigation and report upon the risks to health, safety, environment and property has been carried out to determine if there is any land contamination (or potential contamination) on site. An email from AWE confirms that the AWE standards for undertaking such studies are compliant with the Defence Estates Land Quality Assessment Management Guide therefore the full requirements have been met. Credit awarded.
S-BI 3	Remediation Method	1	1	1	Env M	AWE provided a BAE Systems Verification Report was produced in December 2007. This confirms that there are no significant risks from contamination and therefore no remediation is required. Credit awarded by default.
S-BI 4	Ecological Survey	1	1	1	Env M	AWE provided a copy of the site specific Ecology Report, produced in April 2004. The site survey was undertaken when the site was acquired and before any site clearance took place. The Ecology Report was produced by a competent person - a senior environmental scientist from Atkins, who holds a BSc in Zoology and an MSc in Ecology, as well as being a full member of the Institute of Ecology and Environmental Management. A draft Environmental Impact Assessment (EIA) chapter was also provided which identifies the previous work conducted and provides a baseline for the site of 2003-2004 with updates, supporting the Ecology Report. Credit awarded.

S-BI 5	Protection and Enhancement of the Historic Environment	1	1	1	Env M	<p>AWE provided a draft EIA chapter on Archaeology and Cultural Heritage, dated July 2007 and an Archaeological Evaluation Report, dated October 2007. The following documents/bodies were consulted:</p> <ul style="list-style-type: none"> - National Heritage Act 1983 - National planning documents (PPG15 and 16) - MOD (Defence estates) policy - West Berkshire District Local Plan 1991-2006 - West Berkshire County Council Sites and Monuments Record (SMR) - West Berkshire Archaeological Service Records - English Heritage Listed Buildings Register - Various historic maps and plans for Aldermaston <p>No archaeology earlier than the post-medieval period was encountered on site.</p> <p>AWE confirmed in writing that the project will ensure that any historic features are reflected within the Construction Environmental Management Plan (CEMP) together with any mitigation measures.</p> <p>Credit awarded.</p>
Sub-Total		5	4	4		

ENERGY

S-EN 1	Energy Infrastructure	2	2	2	Env M	<p>AWE provided copies of the proposed load connection forms for Project Hydrus enabling works and the new facility. The Interface Control Agreement Between Utilities and Project Hydrus was also provided, which confirms that the project has consulted the site energy team to ensure that there is sufficient capacity to meet energy demands.</p> <p>In addition, a Technical Study has been undertaken which considers whether renewable energy technologies are feasible for the project. All relevant technology options were considered.</p> <p>2 of 2 credits awarded.</p>
Sub-Total		2	2	2		

PROCUREMENT

S-PR 1	Sustainable Development Specialist	1	1	1	-	<p>Halcrow Yolles has been appointed as DREAM assessor for Project Hydrus. Initially, the project was a BREEAM assessment and Halcrow Yolles also provided advice to the team on the BREEAM requirements. The following individuals have been involved in the BREEAM/DREAM advice process:</p> <p>Jon Atkinson - A Sustainability Associate who is defined as a Suitably Qualified and Experienced Person (SQEP) by AWE. Jon is a BREEAM Offices assessor.</p> <p>Natasha Fox - A BREEAM and Sustainability Advisor, who is part of a dedicated BREEAM team within Halcrow Yolles. Natasha is a qualified BREEAM Education, Bespoke, Multi-residential and Code for Sustainable Homes/SAP assessor.</p> <p>Credit awarded.</p>
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S-PR 2	Desktop Surveys	1	1	1	Env M	<p>The following have been undertaken/provided and contribute to the requirements of this credit:</p> <ul style="list-style-type: none"> Archaeological Desk-Based Study, April 2004 Sustainability Appraisal Geotechnical Survey AWE Travel Plan AWE Energy Strategy Draft EIA Transport Chapter Draft EIA Ecology Chapter Technical Study of Energy Considerations AWE EMS ISO:14001 Certificate Construction PREA Operational PREA EDGE Ground Conditions Desk Top Study AWE Aldermaston Biodiversity Action Plan <p>A draft summary of the desktop surveys has been provided and AWE confirmed this would be carried through to later stages as per the guidance.</p> <p>Credit awarded.</p>
S-PR 3	Consideration and Demonstration of Wider Environmental Impact	1	0	0	AWE	<p>This credit is not sought and is considered unachievable by the design team.</p> <p>Credit withheld.</p>
Sub-Total		3	2	2		

TRAVEL

S-TR 1	Site Accessibility for Pedestrians and Cyclists	1	1	1	AWE/ Env M	<p>A copy of the AWE Travel Plan has been provided. A copy of the AWE Travel Plan Progress Report, dated October 2009 has also been provided which links back into the earlier site wide plan.</p> <p>There is also a travel site on the internal intranet, providing; information on initiatives, details of safe walking routes, passenger transport timetable information, portal to the car sharing database, information on local cycling groups/retailers and details of local taxi companies.</p> <p>A marked up AWE Aldermaston Site Plan shows the proposed and existing cycle and pedestrian routes. There is a proposed cycle route from the Hydrus site to the main restaurant, which links up with the existing routes. There are one way traffic flows and a reallocation of road space to introduce cycle lanes and footways. There will also be a local restaurant on the Hydrus site.</p> <p>A Hydrus Site Plan shows the safe pedestrian routes around the site. Pedestrian crossings have been added on the route from the Welfare building to the R&D building.</p> <p>Credit awarded.</p>
Sub-Total		1	1	1		

WATER

S-WR 1	Water Infrastructure	1	1	1	Env M	<p>AWE provided load connection forms for potable water, foul water, fire and surface water confirming sufficient capacity is available. An Interface Control Document was provided as part of the S EN 1 evidence submission which also confirms that suitable correspondence has taken place with the site infrastructure team.</p> <p>Credit awarded.</p>
S-WR 2	Flood Risk	1	1	1	Env M	<p>A flood risk assessment was carried out in August 2009 which confirms that the site is at low risk of flooding from all sources.</p> <p>Credit awarded.</p>
Sub-Total		2	2	2		

WASTE

S-WS 1	Waste Infrastructure	1	1	1	Env M	A Waste Management Plan exists for the project which confirms that the project has considered how waste and recyclable waste will be disposed of. AWE also provided a copy of meeting minutes between the project and the AWE Waste Management Group, which confirmed they can accept the Hydrus waste. Credit awarded.
Sub-Total		1	1	1		

TOTAL		14	12	12
	%	100	85.71	85.71

Project team key
 Env M = AWE Environmental Manager

DREAM AWE Process and Welfare Areas (V3)

Project: Hydrus

Preliminary Assessment Summary

Sheet - Design Stage

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Notes:

Commitment received to achieve X = the credit has not been awarded yet as the evidence is not available, but there is a written commitment to comply with the requirements

Credit awarded = the credit has been awarded for the design stage and evidence has been received

Credit withheld = the project cannot achieve this credit and evidence will not be provided

Credit Title	CREDITS			Responsibility	Assessment notes	
	Credits Available	Welfare Excellent Potential Score	Process Excellent Potential Score			
BIODIVERSITY AND ENVIRONMENTAL PROTECTION						
D-BI 1	Site Ecology Strategy	4	2	2	Env M	<p>AWE confirmed the following in writing:</p> <p><i>Relocation: Newts were relocated from the concrete lined settlement pond located west of B2A26.2 to the North Ponds.</i></p> <p><i>Conservation and Protection: The copse and veteran oak to the south eastern corner of the Hydrus are to be protected from the impacts of development as they are important to the ecology of the site for bats, grass snakes and slow worms.</i></p> <p><i>Improvement: Hydrus commits to the reintroduction of indigenous vegetation post construction. Assessment of ecological improvement will be undertaken using the LE4 tool.</i></p> <p><i>Off site projects: Hydrus commits to supply and install bird or bat boxes for 25 local schools to support off-site ecology and biodiversity'.</i></p> <p>Draft copies of the ecological report and EIA chapter were provided. The EIA chapter confirms that the relocation of the newts was carried out under a precautionary method of working, agreed with Natural England and AWE confirmed that the newt relocation was carried out by a suitably qualified ecologist. An email from AWE confirms that the ecology report was approved by a full member of IEEM.</p> <p>The EIA chapter confirms that several species will be lost therefore there the conservation credit will not be complied with It also notes that approximately 50 mature and semi-mature trees will be lost to the development (mostly semi-mature birch) which will result in the loss of bird nesting habitat. The second credit is withheld.</p> <p>Species-hectare calculations have not been provided therefore the third credit is withheld.</p> <p>2 of 4 credits awarded (the relocation credit and the off-site credit).</p>
D-BI 2	Protection and Enhancement of the Historic Environment	1	1	1	AWE	<p>A meeting was held between AWE, RPS and West Berkshire Council on 01 June 2009. The purpose of the meeting was to discuss the emerging design strategy for Project Hydrus. Views of the site were discussed, along with material choices and the location in line with the surrounding environment. Minutes of this meeting were provided.</p> <p>The draft EIA Alternatives and Design Evolution Chapter addresses the alternatives considered during the course of the scheme's fomulation and reasons for the adoption of the proposal. A copy of the Landscape and Visual EIA chapter has been provided.</p> <p>AWE confirmed in writing that the relevant heritage sections of the DEEP have been followed.</p> <p>An AWE Heritage Strategy (R) is available on site and the assessor has read this. There is a Heritage Centre at AWE where employees can find out more about the heritage features.</p> <p>A Layout Philosophy Document (R) demonstrates that the design considered the surrounding listed building and the historic setting.</p> <p>Credit awarded.</p>
Sub-Total		5	3	3		

Completed by: NCF
Checked by: JA

EXTERNAL EQ

D-EEQ 1	Reducing Global Warming Potential	2	2	2	M&E	<p>AWE confirmed the following in writing:</p> <p><i>'Design and Maintenance Guide 07 – Justifying Air Conditioning, will be followed with regards to the air conditioning systems within the buildings. The Integrated Environmental Systems (IES) preliminary model indicates that the temperature within the IVA halls will exceed 30° for 2.5% or 8 or more days over the peak summer months (July/August). Therefore air conditioning will be required in this area. Output data from modelling will be provided at detailed design stage.'</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 2 of 2 credits.</p>
D-EEQ 2	NOx Emissions of Heating Source	3	0	0	-	<p>This credit is not achievable as the AWE Green Tariff does not meet the requirements and an air source heat pump is specified. ASHPs use grid electricity and so have a very high NOx emission rate.</p> <p>Credits withheld.</p>
D-EEQ 3	Zero ODP and GWP <5 Insulants	1	1	1	M&E / DH	<p>AWE confirmed the following in writing:</p> <p><i>'Insulation products will be specified with a GWP <5 and ODP of 0 for the building fabric and building services systems'.</i></p> <p>Technical data was provided for the proposed insulation types. These all have Global Warming Potential of less than 5 and Ozone Depleting Potential of zero. Specifications have not yet been written, but the Design House has made a written commitment to include the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
Sub-Total		6	3	3		

ENERGY

D-EN 1	Building Regulations Enhancement Part L2A	3	1	1	M&E	<p>AWE confirmed the following in writing:</p> <p><i>'Atkins Design House commit to design the facility to produce a BER for the building so that it is >10% improvement compared to the TER. Atkins will calculate the BER using the DCLG approved, iSBEM tool which will show a >10% improvement on the Part L2A Requirements. Model outputs will be provided as evidence'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 1 of 3 credits.</p>
D-EN 2.2	Building Air Leakage Design	3	1	1	DH	<p>AWE confirmed the following in writing:</p> <p><i>'The building envelope will be designed to reduce air leakage to a factor of <8m3/(h.m2) @50 Pa'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 1 of 3 credits.</p>
D-EN 3	MANDATORY Energy Feasibility Study	2	2	2	M&E/ DH	<p>A copy of the Heating and Cooling Options Study has been provided which assesses the feasibility of: oil fired water boilers, gas fired CHP (both not included in the design), gas fired water boilers and air cooled VRF cooling, air source heat pumps and ground source heat pumps.</p> <p>Evidence for the Survey Stage assessment (credit S EN 1) confirmed that a site wide renewables options appraisal exists, and a site specific one has also been carried out. These studies are compliant with DREAM.</p> <p>An Energy Resources Statement has been provided which details the predicted energy demand of the new building. Meeting minutes and email correspondence have been provided, confirming that members of the project team have liaised with a member of the site energy team.</p> <p>2 of 2 credits awarded.</p>

D-EN 4	Reduction of Carbon Dioxide Emissions	6	4	4	M&E	<p>AWE confirmed the following in writing:</p> <p><u>Enhanced Energy Efficiency Initiatives</u></p> <ul style="list-style-type: none"> •The use of a Variable Refrigerant Flow (VRF) system within the Support building moves heat around the building by extracting the heat from one area that requires cooling and using it to heat another area that requires heating. <p><u>Heat or Energy Recovery Initiatives</u></p> <ul style="list-style-type: none"> •The fresh air into the facility is drawn through the IVA Halls during the winter heating season. This method utilises the heat dissipated from the IVA machines to pre-heat the incoming fresh air to the facility. •Practically all of the air handling systems within the R&D building recirculate the air within the building, in turn recovering the heat within the system. •Ventilation systems within the Support Building incorporate run-around coils / cross-flow heat exchangers where practicable'. <p>A data sheet for the '3 way flow logic' system has been provided. This provides simultaneous heating and cooling with a heat reclaim system.</p> <p>Although credits cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 4 of 6 credits.</p>
D-EN 5.2	Lighting Flexibility, Zoning and Control	3	3	3	M&E/ DH	<p>AWE confirmed the following in writing:</p> <p>'The R&D & Support buildings will have zoned lighting fitted with an Intelligent Control System such as DALI. Areas adjacent to windows and doors will be zoned separately. Specification and schematic drawing evidence will be supplied to show the definition of lighting zones and the method of control. Passive Infra-Red occupancy linked control system will be used within all WC's and other spaces as appropriate. Specification and schematic drawing evidence will be supplied to show the occupancy and dimming & daylight linked control strategy. The average daylight factor will be >2.5% in areas with daylight dimming. The IVA halls though in excess of 200m2 will be fitted with an ICS but will not have zoned lighting. Full lighting of these areas is required during maintenance activities for health and safety reasons. These areas will not be designed with windows'.</p> <p>The DREAM requirements state that there should be separate on/off switching so that when only a part of the building is in operation, only the required lighting can be utilised. The assessor deems that the lighting in the IVA hall can be considered compliant, as the IVA hall requires full lighting for its function.</p> <p>A draft Luminaire Schedule has been provided along with lighting layout drawings for the R&D building, confirming which luminaires are DALI compatible. Zones are not shown on the lighting drawings.</p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 3 of 3 credits.</p>
D-EN 6	Lighting Levels	0	0	0	-	Credit not applicable as the project is required to adhere to JSP scales. This is confirmed in AWE Applicable Engineering Standards MER-110-003171 Item 1.13 JSPs.
D-EN 7	Internal and External Luminaires	1	1	1	M&E/ DH	<p>AWE confirmed in writing that the internal and external luminaires will exceed the standards in Part L of the building Regulations, except in the IVA hall where non electronic lamps are to be used due to safety requirements. The project will develop a lighting plan which will include an appropriate lighting layout with control methods. The assessor has seen a copy of the Building Services report on site.</p> <p>A Luminaire Schedule has been provided but due to the early stage of the design this does not include the efficacies yet. The Design House confirmed that they shall provide supporting calculations with the Luminaire Schedule.</p> <p>Commitment received to achieve credit.</p>
D-EN 8	Carbon Rating of Heating Fuel	1	1	1	DH	<p>AWE confirmed the following in writing:</p> <p>'Heating will be provided in the form of Air Source Heat Pumps. These will have a COP > 3'.</p> <p>Defence Estates confirmed via email on 22nd July 2009 that this is acceptable to meet the requirements. A data sheet was provided in support of credit D EN 4 which confirms the COP to be 3.8. Once the specification has been written to include this, the credit can be awarded.</p> <p>Commitment received to achieve credit.</p>
D-EN 10	Boiler Efficiency	2	2	2	M&E	<p>AWE confirmed the following in writing:</p> <p>'Heating - will be provided in the form of Air Source Heat Pumps. These will have a COP > 3. Domestic Hot Water - Will be provided by instantaneous, 'point of use' water heaters. These will have an efficiency > 85%'.</p> <p>An email from the heating system supplier was provided which states, 'The Handy 3 would require 3.1kW of power from the electricity source and would give out 3.1kW of heat power to heat the water passing over the element'.</p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 2 of 2 credits.</p>

D-EN 11	Domestic Hot Water Production	1	1	n/a	DH	<p>AWE confirmed the following in writing:</p> <p><i>'Domestic Hot Water - Will be provided by instantaneous, 'point of use' water heaters. These will have an efficiency > 85%. These types of water heaters will only generate hot water as required, therefore there are no standing losses during 'out of hours' periods'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-EN 12	Energy Efficiency in Periods of Low Demand	1	n/a	1	DH/ HY	<p>AWE confirmed the following in writing:</p> <p><i>'Controls systems will be provided to allow the flexibility of controlling individual ventilation processes. Due to the nature of the facility zoned ventilation throughout is not feasible. Air ventilation systems will have occupancy/setback non occupational /presence detector systems, where possible. Certain processes within the facility cannot be switched off. Lighting will be compliant with the zonal requirements throughout the R&D (except IVA hall) and Support Building. The IVA halls though in excess of 200m2 will be fitted with an Integrated Control System (ICS) but will not have zoned lighting. Full lighting of these areas is required during maintenance activities for health and safety reasons. These areas will not be designed with windows. Schematic drawings and specification clauses will be provided by the Project to ensure compliance with this credit'.</i></p> <p>Defence Estates confirmed via email on 06 April 2009 that the requirements can still be met with partial areas requiring 24 hour ventilation.</p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-EN 13	MANDATORY Energy Metering	1	1	1	DH	<p>A copy of the Hydrus Energy Metering Strategy has been provided, for the baseline phase of the project. This states clearly that energy metering is a requirement of the Building Regulations and includes a metering schedule. All meters are electrical (heating is via an air source heat pump and water is point of use electric water heating, therefore no gas supply) and are separate for the IVA hall, HVAC systems as well as two direct meters for the total power. Meters are pulsed output. 90% of the total incoming energy shall be metered.</p> <p>Credit awarded.</p>
D-EN 14	Thermal Modelling	1	1	n/a	M&E/ DH	<p>AWE confirmed the following in writing:</p> <p><i>'Thermal modelling of the R&D and Support buildings is being carried out using an Integrated Environmental Solutions (IES) software model. This model is being used to inform and aid the detailed building design. CIBSE Guide A comfort criteria will be met where JSP scales do not apply. VPR Temperature Control Option Appraisal HYDFEL3/48.24/REP/00130 (to follow) to show how thermal modelling is being used to inform design. Output data from modelling will be provided at detailed design stage'.</i></p> <p>The assessor viewed the Temperature Control Option Appraisal for the R&D building on site and this is the same sort of appraisal that will be completed for the Support building.</p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
Welfare Sub-Total		24	18			
Process Sub-Total		23		17		

INTERNAL EQ

D-IEQ 1	MANDATORY Environmental Comfort - Meet Standards	0	0	0	-	Credit not applicable as the project is required to adhere to JSP scales. This is confirmed in AWE Applicable Engineering Standards MER-110-003171 Item 1.13 JSPs.
D-IEQ 2.1	Daylighting	2	1	n/a	DH	<p>AWE confirmed the following in writing:</p> <p><i>'The office and control room areas of the Support Building will be configured through the use of external windows and 'light pipes' to deliver daylight. The DH is committed to achieving a day lighting factor of equal or greater than 2% but less than 5% using these devices across 80% of the floor area of offices'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 1 of 2 credits.</p>

D-IEQ 3	Safe Lighting Conditions	1	1	1	DH	<p>AWE confirmed the following in writing:</p> <p><i>'High frequency electronic ballasts will be installed on fluorescent luminaires throughout both buildings with the exception of the IVA halls.</i></p> <p><i>'In the IVA Halls non-electronic lamps will be used due to safety requirements.'</i> This is justified in an EMP/EMC Building Services (R) document which the assessor has viewed on site.</p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-IEQ 4	Thermal Zoning	1	1	0	M&E/ DH	<p>AWE confirmed the following in writing:</p> <p><i>'Process Building</i> <i>Due to the IVA halls with an area of >200m2 it is not practicable to have separate thermal zoning.'</i></p> <p>Credit withheld.</p> <p>AWE confirmed the following in writing:</p> <p><i>'Welfare Building</i> <i>The Support Building will have thermal zones of < 200m2 floor area'. Local control will be provided for the support building, that is easy to understand and there will be a manual override facility for out of hours use.</i></p> <p>Commitment received to achieve credit.</p>
D-IEQ 6	External Views	1	1	n/a	DA	<p>AWE confirmed the following in writing:</p> <p><i>'All workstations will be within 8m of the windows to the external wall to Welfare Building. Occupants will have an adequate view out (i.e. of an object and not of the sky).'</i></p> <p>Correspondence has taken place between the assessor and the project team regarding a hub room. This will be occupied for 1% of the time over a 5 year period and so the assessor considers that this room can be excluded from the requirements.</p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to award credit.</p>
D-IEQ 7	Internal Emissions	1	1	n/a	DA	<p>AWE confirmed in writing:</p> <p><i>'The DH is committed to specifying all internal finishes including painted surfaces, floor and wall covering, adhesives, sealants, preservatives will be low VOC. All composite wood and joinery products are low emission formaldehyde or no composite wood or joinery products are used.'</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to award credit.</p>

D-IEQ 8	Adaptation to Climate Change	2	n/a	2	Env M	<p>AWE confirmed the following in writing:</p> <p>'The project will ensure that all emergency procedures and equipment specifications are updated to meet increased risks as identified by studies such as the FRA and 1:10,000 year assessments. Incorporate landscape features to absorb water within developments. Site layout drawing showing SUDS. The project will ensure that all emergency procedures and equipment specifications are updated to meet increased risks as identified by studies such as the FRA and 1:10,000 year assessments'. This meets the requirement for the potential higher risk of flooding.</p> <p>'Drawings, specifications and other appropriate evidence (i.e. construction works programme) will be provided by the project which will demonstrate that all foundations are resilient to potential influences of climate change.</p> <p>Drawings, specifications and other appropriate evidence will be provided by the project to demonstrate that appropriate structural design for the building and any associated hard standing/roads has been undertaken to ensure that they are resilient to the potential influences of climate change'. These both meet the requirements for mitigating the increased risk of subsidence.</p> <p>'The support building will be designed to ensure that there is reduced solar heating using recessed windows, roof overhangs and shades. The R&D Building will not contain any windows. A-HYDRUS-ATK-01-XX-DRW-AR-300-111-005707. Support Building Evidence provided throughout this DREAM assessment demonstrates that energy efficient heating and ventilation will be used throughout the R&D and Support Buildings'. This meets the requirement for the potential temperature increases.</p> <p>'All heating and ventilation systems will be energy efficient'. This meets the requirement for the potential temperature increases.</p> <p>Design U-Values have been improved beyond the minimum requirements of the buildings regulations'.</p> <p>The draft water resources chapter and Flood Risk - Summary Report is due to be provided.</p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 2 of 2 credits by achieving 4 of the requirements.</p>
Welfare Sub-Total		6	5			
Process Sub-Total		4		3		

PROCUREMENT

D-PR 1	Innovation in Sustainable Construction	3	3	2	DH	<p>AWE confirmed the following in writing:</p> <p>'Construction Logistics Plan MER-110-003763 Process 1. Use of water based products within the R&D building – The DH is committed to specifying low VOC paints to floor, wall, and ceiling surfaces, to structural steel. 2. Thermal modelling is also being carried out on the R&D Building and is being use to influence the design. (The assessor has viewed a copy of this on site) 3. Water saving measures within R+D building; • Taps for wash hand basins will be specified as either hand detecting spray taps or push button spray taps with timed shut-off. • Shower heads will be specified with < 9L/s flow. • Urinals will be specified complete with proximity detection devices • All WCs will be specified as 6/4 litre dual flush • Use of 15 minute cut off value for water within toilets and kitchens to prevent leaks</p> <p>It is considered that two of the above design features are sufficient to award innovation credits; for carrying out thermal modelling when it is not required by DREAM and for specifying low water use fittings that are not assessed as part of the Process assessment. Using low VOC paints is not considered to be onerous.</p> <p>Commitment received to achieve 2 of 3 credits.</p> <p>AWE confirmed the following in writing: 'Construction Logistics Plan MER-110-003763 Welfare 1. Controls systems will be provided to allow the flexibility of controlling individual ventilation processes (same as D-EN12 for Process Building). 2. Design U-Values have been improved beyond the minimum requirements of the buildings regulations (same as D-IEQ(8) for Process Building). 3. All heating and ventilation systems will be energy efficient (same as D-IEQ(8) for Process Building)'. It is considered that all three of the above design features are sufficient to award innovation credits. Commitment received to achieve 3 of 3 credits.</p>
D-PR 2	Sustainable Development Construction Specialist	1	1	1	-	<p>Halcrow Yolles has been appointed as DREAM assessor for Project Hydrus. Initially, the project was a BREEAM assessment and Halcrow Yolles also provided advice to the team on the BREEAM requirements. The following individuals have been involved in the BREEAM/DREAM advice process:</p> <p>Dr Jon Atkinson - A Sustainability Associate who is defined as a Suitably Qualified and Experienced Person (SQEP) by AWE. Jon is a BREEAM Offices assessor. Natasha Fox - A BREEAM and Sustainability Advisor, who is part of a dedicated BREEAM team within Halcrow Yolles. Natasha is a qualified BREEAM Education, Bespoke, Multi-residential and Code for Sustainable Homes/SAP assessor.</p> <p>Credit awarded.</p>

D-PR 3	Building User Consultation	2	2	2	Env M / AWE	<p>AWE provided examples of the consultation that has been held via meeting minutes and a presentation to HD operators. AWE confirmed via email that the consultation took place prior to RIBA Stage D.</p> <p>The design has changed due to stakeholder input. An example of this is that the stakeholders rejected the idea to split the support building into 2 along with having other various design inputs.</p> <p>Minutes from a meeting held on 18 June 2008 state a number of changes to the support building.</p> <p>2 of 2 credits awarded.</p>
D-PR 4	Evaluation of Local Supply Chain for Local Procurement	2	1	1	HY/ DH	<p>AWE confirmed the following in writing:</p> <p><i>'A review of the local supply chain will be undertaken to identify opportunities for use of local suppliers providing products that have originated within 100 miles of the site. The review will cover the following building elements:</i></p> <ul style="list-style-type: none"> • Structure • Masonry • Flooring • Windows • Cladding <p><i>One credit.'</i></p> <p>The assessor has seen a copy of a document (R) confirming that the Contractor will have ISO 14001 accreditation. Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 1 of 2 credits.</p>
D-PR 5	Environmental Profile of Materials	2	2	2	DH/ DA	<p>AWE confirmed in writing:</p> <p><i>'The DH is committed to achieving an A rated construction to 90% of the following elements.</i></p> <p><i>Process Building</i> <i>Roof</i> <i>Upper Floors</i> <i>Internal Walls</i> <i>Hard Landscaping</i></p> <p>Details were provided for the external wall which is a combination of an A+ and an A rated product, therefore is deemed to be A rated. Commitment received to achieve 2 of 2 credits.</p> <p>AWE confirmed in writing:</p> <p><i>'The DH is committed to achieving an A rated construction to 90% of the following elements.</i></p> <p><i>Welfare building</i> <i>Roofs</i> <i>Floor Finishes</i> <i>Internal Walls</i> <i>Hard Landscaping</i></p> <p><i>Evidence will (be) supplied as specifications and drawings which detail all types of materials to be used'.</i></p> <p>Details were provided for the external wall which is a combination of an A+ and an A rated product, therefore is deemed to be A rated. Commitment received to achieve 2 of 2 credits.</p>
D-PR 6	Recycled Aggregate Materials	2	1	1	Env M	<p>AWE confirmed the following in writing:</p> <p><i>'The contractual specifications will ensure that all aggregate materials used for the new facility will contain a minimum of 30% recycled aggregate by mass, which will be sourced from within 100 miles of the site'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 1 of 2 credits.</p>
D-PR 7	Recycled Content of Building Materials	2	1	1	DH	<p>AWE confirmed the following in writing:</p> <p><i>'Commitment to use the online WRAP tool to determine the value of recycled content used and the top ten opportunities to increase this outcome. The project shall have a minimum recycled content of 10% and three (1 credit) of the top ten Quick Win opportunities will be implemented'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 1 of 2 credits.</p>

Completed by: NCF
Checked by: JA

D-PR 15	Internal Robust Design	2	2	2	DH / QS	<p>AWE confirmed the following in writing:</p> <p><i>'Design House</i> <i>The design house will specify materials and systems of appropriate robustness.</i> <i>The design will include measures such as:</i></p> <ul style="list-style-type: none"> • <i>Walls specified to Severe Duty as per BS 5234-2.</i> • <i>Impact protection doors.</i> • <i>Floors should have durable finishes.</i> • <i>Window opening should be located away from areas where damage could easily occur.</i> <p><i>100% of the key heavy activity area will be made durable.</i> <i>Quantity Surveyor</i> <i>Whole life costing will be undertaken and evidence provided when it becomes available'.</i></p> <p>Although the credits cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 2 of 2 credits.</p>
Sub-Total		23	19	18		

TRAVEL

D-TR 1.1	Cyclist Facilities	1	1	1	DH	<p>AWE confirmed the following in writing:</p> <p><i>'Cycle facilities for 20% of the population of the building will be provided. Currently 12 represents 20% of the total facility population. Cycle stand for 12 cycles will be provided.</i> <i>Lockers and showers provided in both R&D and Support Building.</i> <i>Drawing A-HYDRUS-ATK-99-XX-DRW-AR-900-111-005001 shows the location of the cycle stand.</i> <i>Building layout drawings will show changing areas and numbers of shower cubicles'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-TR 3	Consideration and Implementation of Green Travel Policies on Site	1	1	1	Env M	<p>A copy of the AWE Travel Plan was submitted as part of the Survey Stage evidence. A copy of the AWE Travel Plan Progress Report, dated October 2009 has been provided which links back into the site wide plan. This addresses measures that have been added to site and provides information on the general progress of the procedures in the plan.</p> <p>There is also a travel site on the internal intranet, providing: information on initiatives, details of safe walking routes, passenger transport timetable information, portal to the car sharing database, information on local cycling groups/retailers and details of local taxi companies.</p> <p>An AWE Site Plan shows the proposed and existing cycle and pedestrian routes. There is a proposed cycle route from the Hydrus site to the main restaurant, which links up with the existing routes. There are one way traffic flows and a reallocation of road space to introduce cycle lanes and footways. There will also be a local restaurant on the Hydrus site.</p> <p>A Hydrus Site Plan shows the safe pedestrian routes around the site. Pedestrian crossings have been added on the route from the Welfare building to the R&D building.</p> <p>Credit awarded.</p>
Sub-Total		2	2	2		

WATER

D-WR 1	Water Conservation Equipment	1	1	n/a	DH	<p>AWE confirmed the following in writing:</p> <p><i>'Taps for wash hand basins will be specified as either hand detecting spray taps or push button spray taps with timed shut-off.</i> <i>Shower heads will be specified with < 9L/s flow'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
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D-WR 2	WCs	1	1	n/a	DH	<p>AWE confirmed the following in writing:</p> <p><i>'All WCs will be specified as 6/4 litre dual flush'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-WR 3	Urinals Control	1	1	n/a	DH	<p>AWE confirmed the following in writing:</p> <p><i>'Urinals will be specified complete with proximity detection devices'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-WR 4	MANDATORY Water Meter	1	1	1	DH	<p>AWE confirmed the following in writing:</p> <p><i>'Water meters will be provided on all incoming supplies to the buildings and on all items with a major consumption. Each meter shall be capable of remote monitoring via the Building Automation System (BAS)'.</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-WR 5	Rain Water Management	3	3	3	Env M	<p>AWE confirmed the following in writing:</p> <p><i>'The project commits to demonstrate that rainwater management measures have been designed into the development: This includes</i></p> <ul style="list-style-type: none"> <i>• SUDS</i> <i>• The green roof will be capable of 25% rain water retention for greater than 80% of the roof area. (An email from Kalzip to the Design House confirms this)</i> <p><i>Evidence of these design features will include specifications, drawings, and calculations'.</i></p> <p>A copy of the AWE Surface Drainage Water Drainage Strategy has been provided which addresses the Sustainable Urban Drainage Systems (SuDS) options.</p> <p>Although the credits cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 3 of 3 credits.</p>
D-WR 6	Drainage and Flooding	3	3	3	Env M / DH	<p>AWE confirmed the following in writing:</p> <p><i>'The project commits to demonstrate that measures to minimise flooding have been designed into the development: This includes</i></p> <ul style="list-style-type: none"> <i>• SUDS</i> <i>• Permeable paving</i> <i>• Oil interceptors in areas where hydrocarbons could enter the surface water drainage system.</i> <i>• Green roof</i> <p><i>Evidence of these design features will include specifications, drawings, and calculations'.</i></p> <p>A copy of the draft AWE SUDS Principles has been provided, and along with the Surface Water Drainage Strategy, this confirms that there is a sufficient site wide policy for drainage and flooding.</p> <p>Information in compliance with third credit:</p> <ul style="list-style-type: none"> - Commitment to use oil interceptors - Commitment to include a green roof in the design - SUDS Principles states that the attenuation of flows is a fundamental requirements for all drainage systems - SUDS Principles demonstrates that AWE has considered the use of rainwater harvesting for attenuation (with a note that this is likely to be specified more often in future) - SUDS Principles states that the normal use of SuDS in drainage schemes will provide adequate protection for the small streams around Aldermaston - Aldermaston is not in a floodplain <p>Enabling and External Works document:</p> <ul style="list-style-type: none"> - Cellular attenuation storage systems will be provided - Bypass and retention separators - Shallow infiltration cut off ditch to catch and settle all flows during construction - Existing watercourse within the pond area will be diverted to reduce the risk of site runoff contamination. <p>Commitment received to achieve 3 of 3 credits.</p>
Welfare Sub-Total		10	10			
Process Sub-Total		7		7		

WASTE

D-WS 1.1	Storage and Collection of Recyclable Waste	1	1	1	AWE	<p>AWE confirmed the following in writing:</p> <p><i>'The building design will allow for the on site secure disposal, segregation, storage and collection of recyclable wastes. Currently a 25m² area has been shown on the plan adjacent to the bus stop lay by on Cwm road. See drawing A-HYDRUS-ATK-99-XX-DRW-AR-900-111-005001 (presented for D-TR 1)</i></p> <p><i>In addition to this recycling facilities already exist and are used across the Aldermaston site. Guide to recycling – everything you need to know about recycling at AWE [AWE/DSDG/C/AW/AD/575. Includes facts and figures of recycled weights/volumes from past years.</i></p> <p><i>Assurance Green Alert – Recycling at AWE company wide notice showing ongoing commitment to recycling at AWE'.</i></p> <p>Welfare building:</p> <p>AWE confirmed the following in writing:</p> <p><i>'The building design will allow for the on site secure disposal, segregation, storage and collection of recyclable wastes. Currently a 25m² area has been shown on the plan adjacent to the bus stop lay by on Cwm road. See drawing A-HYDRUS-ATK-99-XX-DRW-AR-900-111-005001 (presented for D-TR 1)</i></p> <p><i>In building bins will be provided in the welfare building for recycling - plastic, paper, card and tins/cans; and general waste, in line with the rest of the buildings on the AWE site. Glass recycling will be located external to the building (safety issue inside building). The location of recycling bins has not yet been finalised, plans will be made available once they are ready.'</i></p> <p>Process building:</p> <p><i>'Large volumes of oil will be stored adjacent to the building, locations are marked on the site layout drawing 5001-2, storage, bunding and controls will be in accordance with all relevant legislation (oil storage regs) and AWE policies.</i></p> <p><i>Stores of other chemicals in the buildings will also comply with the relevant regulations and AWE policies in terms of volumes, bunding, lockable storage units etc.</i></p> <p><i>Waste processing areas within the building will segregate waste for recycling / disposal via an approved route applicable for the waste stream. Waste storage areas will be designed to meet the regulations required for particular waste streams. Plans will be made available once they are ready.'</i></p> <p>Although the credit cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve credit.</p>
D-WS 2	Design for Waste Minimisation	2	2	2	Env M / AWE	<p>AWE confirmed the following in writing:</p> <p><i>'The DH is committed to using modular off site construction; prefabrication; using reclaimed materials; design for deconstruction / decommissioning. Details of building components conforming to this requirement are not yet available but will be provided in due course as they are designed.'</i></p> <p>Although the credits cannot be awarded at this stage as the appropriate information is not available yet, the Design House has made a written commitment to follow the requirements. Evidence will be requested later in the detailed design stage.</p> <p>Commitment received to achieve 2 of 2 credits.</p>

Sub-Total		3	3	3	
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Welfare total		79	63	
Process total		75		56
%		100	79.75	74.67

Project team key
Env M = AWE Environmental Manager
AWE = AWE Corporate
M&E = Design House (M&E/ HVAC)
HY = Halcrow Yolles (DREAM advisor)
DH = Design House (Arch)
DA = Design Authority