Product/Version or Task:	10.1
Test Plan and Certificate Revision:	0

Software/Documentation Components Used In Tests:

GSA	10.1.16.0
GsaShell	10.1.16.0
AdData	52.2.16.0
GdSpec	10.1.16.0
GSA_DES_AISC_360_05	52.2.16.0
GSA_DES_AISC_360_10	52.2.16.0
GSA_DES_AS4100_98	52.2.16.0
GSA_DES_BS5950_1_2000	52.2.16.0
GSA_DES_CSA_S16_09	52.2.16.0
GSA_DES_EC3_2005	52.2.16.0
GSA_DES_HKSUOS_05	52.2.16.0
GSA_DES_IS800_1984	52.2.16.0
GSA_DES_IS800_2007	52.2.16.0
GSA_DES_LRFD3	52.2.16.0
GSA_DES_Rc2D	10.1.16.0
GSA_DES_SANS10162_1_2011	52.2.16.0
GSA_DES_StressCheck	52.2.16.0
Gsa_Export_Cad	10.1.16.0
Gsa_Import_Cad	10.1.16.0
Gsa_Export_dxf	10.1.16.0
Gsa_Import_dxf	10.1.16.0
GsAdc	10.1.16.0
GsBridge	10.1.16.0
GsCheck	10.1.16.0
GsEnvelope	10.1.16.0
GsExport	10.1.16.0
GsGraph	10.1.16.0
GsRaft	10.1.16.0
GsRelax	10.1.16.0
GSS	52.2.16.0
GsTable	10.1.16.0
GwDat	52.2.16.0
IfcGsa	10.1.16.0
OaData	52.2.16.0
OaMatrix	1,4,1,31071
OaSect	52.2.16.0
OaUtil	52.2.16.0
PDDCal	52.2.16.0
WaveLoad	10.1.16.0

Verification

The six software development outputs listed below shall be verified using a combination of the measures proposed. The Test Plan shall identify which of the options is to be used to verify the software, and, where appropriate, give more detailed descriptions of the methods, data files etc to be used. Any changes that are necessary to existing test regimes shall be detailed.

1 Requirements

Test Plan			Testing Completed By
Item	**Required**	**Generic Requirement and Additional Task-Specific Detail**	
1.1	Yes	Ensure that the stated system and software requirements are well defined, consistent, feasible and testable.	SH
		Detail: Ensure software requirements are adequately described in the Design Scope.	
1.2	No	Ensure that requirements to specific system items and operations are allocated according to design criteria.	
		Detail:	
1.3	Yes	Ensure that system requirements relating to safety, security and integrity are correct as determined by suitably rigorous methods.	SH
		Detail: Ensure licensing requirements are stated in the Design Scope.	
1.4	No	**E**nsure that changes to requirements are controlled, meet the original system criteria, are effectively incorporated and that any adverse effects are identified and communicated.	
		Detail:	

2 Design

Test Plan			Testing Completed By
Item	**Required**	**Generic Requirement and Additional Task-Specific Detail**	
2.1	Yes	Ensure the design has been verified and is correct, safe, consistent with and traceable to requirements.	SH
		Detail: The design shall be reviewed for consistency with requirements.	
2.2	Yes	Ensure the design conforms with engineering standards, established codes of practice and regulatory requirements.	SH
		Detail: (as 2.1)	
2.3	Yes	Ensure the design implements the correct sequence of events within given efficiency, time and performance criteria.	SH
		Detail: Ensure the software is designed to function efficiently.	
2.4	Yes	Ensure the design can be derived from the requirements.	SH
		Detail: Ensure that included tasks are documented and fixed NCRs cross reference code changes.	
2.5	Yes	Ensure the design implements safety, security and other requirements correctly as determined by suitably rigorous verification methods.	SH
		Detail: Ensure that security system (ref. 1.3) is functioning correctly.	

3 Code

Test Plan			Testing Completed By
Item	**Required**	**Generic Requirement and Additional Task-Specific Detail**	
3.1	Yes	Ensure the code is documented	SH
		Detail: Satisfy that coding standards are met.	
3.2	Yes	Ensure the code is under configuration management, it is traceable to design specifications and requirements, it is testable, understandable and maintainable and conforms to relevant programming standards.	SH
		Detail: Satisfy that configuration standards are met.	
3.2.1(4)	Yes	Rebuild code from Oasys configuration management store to ensure its completeness.	SH
		Detail: Rebuild code from Oasys configuration management store to ensure its completeness.	
3.3	Yes	Ensure code modularisation is logical and consistent with design requirements.	SH
		Detail: Ensure that logical code modularisation has been applied.	
3.4	No	Ensure code contains no redundant features and has been tested as thoroughly as practicable.	
		Detail:	

4 Integration

Test Plan			Testing Completed By
Item	**Required**	**Generic Requirement and Additional Task-Specific Detail**	
4.1	Yes	Ensure full integration of software and hardware components into the system.	SH
		Detail: Carry out installation tests.	

5 Documentation

Test Plan			Testing Completed By
Item	**Required**	**Generic Requirement and Additional Task-Specific Detail**	
5.1	Yes	Ensure documentation is consistent and complete.	SH
		Detail: Ensure that online help/manual, change log and web site are updated.	
5.2	Yes	Ensure document configuration control is applied.	SH
		Detail: Configuration control to be applied to online help files.	

6 Development Outputs

Development outputs should be demonstrated to meet the development input requirements by one or more of the following verification techniques

Test Plan			Testing Completed By
Item	**Required**	**Generic Requirement and Additional Task-Specific Detail**	
6.1	Yes	review (for example, walkthrough, inspection or peer review as part of Design Review)	SH
		Detail: Outputs should be reviewed at design review.	
6.2	Yes	tracing software requirements to software components and vice-versa	SH
		Detail: Associate required functionality with software components. Ensure that NCRs identified in the Release Notes have been addressed.	
6.3	Yes	formal proof of correctness of the development output	SH
		Detail: Compare results with benchmark. (see 6.4.2 table)	
6.4.1	Yes	unit tests of a software component	SH
		Detail: Perform unit tests on new and modified modules, or ensure that unit tests have been carried out on contributing task projects.	
6.4.2	Yes	integration tests of an assembly of software	SH
		Detail: See file <GF62 1 Test Report.docx> for integration test details.	

3rd Party Pre-Release/Beta Testing

Required[5]	Yes
Justification if none required:	
Performed	Yes

Validation

Test Plan:
Validation by beta testing within Arup prior to release.

Testing Completed By	SH

Comments:

See also
GF62 1 Test Report
GF62 6 Release Installation Test Report (Internal)

Conclusions:
GSA 10.1 has satisfied all verification tests

Test Plan

Task Manager	Stephen Hendry	**Date**	5/7/2019
Product Director	Stephen Hendry	**Date**	5/7/2019

Test Certificate

Task Manager	Stephen Hendry	**Date**	20/02/20
Accepted For Release	Yes/~~No~~(1)		
Product Director	Stephen Hendry	**Date**	20/02/20

Notes

(1) Delete as appropriate.
(2) Refer to procedures, data files, instances of GF62.1 Test Report, and testers where appropriate.
(3) Identify operating systems.
(4) 3.2.1 must be performed for code provided by imported UK resources such as Minds Eye Visualisation Services Ltd.
(5) Significant new engineering features/results must perform 3rd party pre-release/beta testing.