

OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC	OFFICE USE ONLY
CERTIFICATION PREAPPROVAL (OSP)	APPLICATION #: OSP-0680
OSHPD Special Seismic Certification Preapproval (OSP)	
Type: X New Renewal	
Manufacturer Information	
Manufacturer: GE HEALTHCARE	
Manufacturer's Technical Representative: Tom Farnow	
Mailing Address: 3000 N. Grandview Blvd, Waukesha, WI 531881696	
Telephone: (888) 406-1101 Email: Tom.Farnow@	gehcseismic.com
FORCODEC	Q ₄
Product Information	MA
Product Name: CT Systems	N. P.
Product Type: NA OSP-0680	
Product Model Number: Discovery MI Digital Ready PET/CT System (20.	21) & Discovery IQ PET/CT System (2021)
General Description: Multiple-component medical imaging systems. Special Seismic Certification is limited to function imaging services.	ns related to Computed Tomography (CT) medical
Mounting Description: Rigid, Floor Mounted DATE: 06/02/2021	
Tested Seismic Enhancements: Seismic enhancements made to the tanomalies during the tests shall be in	est units and/or modifications required to address corporated into the production units.
Applicant Information	COURT
Applicant Information Applicant Company Name: EASE LLC	
Contact Person: Jonathan Roberson	
Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA 91709	
Telephone: (909) 606-7622 Email: jon@easeco.d	com





Title: Principal Engineer



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California Licensed Structural Engineer Responsi	ble for the Engineering and Test Report(s)
Company Name: EASE	
Name: Jonathan Roberson	California License Number: S4197
Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, C	CA 91709
Telephone: (951) 295-1892 Email:	jon@EASECo.com
Certification Method	
GR-63-Core X ICC-ES AC156	☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3
Other (Please Specify):	
EOF	CODECO
Testing Laboratory	Mp,
Company Name: ENVIRONMENTAL TESTING LABORAT	ORIES, INC. (ETL)
Contact Person: Jeremy Lange	
Mailing Address: 11034 Indian Trail, Dallas TX 752293513	SP-0680
Telephone: (972) 247-9657 Email:	info@etldallas.com
DATE: 0	06/02/2021
S	S .









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Seismic Parameters						
Design Basis of Equipment or Components	(Fp/Wp) = See Table 1 & Table 2.					
SDS (Design spectral response accele	eration at short period, g) = 1.52					
a _P (Amplification factor) = See Attachment 1, Table 1 & Table 2.						
R _P (Response modification factor) =	See Attachment 1, Table 1 & Table 2.					
Ω o (System overstrength factor) =	2.0					
Ip (Importance factor) =	1.5					
z/h (Height ratio factor) =	1					
Natural frequencies (Hz) =	See Attachment 2					
Overall dimensions and weight =	See Attachment 2 0 0 5					

OSHPD	Approval (For Office Use Only) - Approva	I Expires on 12/31/2025	2	
Date:	6/2/2021	OSP-0680	m	
Name:	Mohammad Aliaari		Title:	Senior Structural Engineer
Special	Seismic Certification Valid Up to: Sps (g) = 1.52	onammad Aliaari	z/h =	1
Conditio	n of Approval (if applicable): Functionality verifi	cation was limited to function	ns relate	d to CT imaging.









ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

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TABLE 1:

System Mfr. GE HEALTHCARE System Discovery MI Digital Ready PET/CT System (2021)										S _{DS} = 1.52 z/h = 1	
SYSTEM COMPONENTS	MODEL NUMBER	APPROX W	K. DIMENS	IONS (IN.)	MAX. WT.	MOUNT [2]	BASIS [1]	F _P /W _P	аР	R _P	Ω_0
PET-CT GANTRIES								•		•	
Discovery MI Digital Ready PET-CT Gantry	/ [4]		-OF	CODA	- 0						
Revolution EVO CT Gantry, PET Specific	5454001-170	77.4	93.59	76	3940	Floor	UUT1601-1	1.82	1	1 ½	2
25cm Columbia PET Gantry	5990025	14.			3915						
Discovery MI Digital Ready PET-CT Gantry	/ [4]					7					
Revolution EVO CT Gantry, PET Specific	5454001-170	87	70	76	3940	Floor	INT	1.82	1	1 ½	2
Blackbird PET Gantry	5986030	· 沙		SP-06	3985						<u> </u>
Discovery 610 PET-CT Gantry			0	01 00	00						
BrightSpeed Elite CT Gantry, PET Specific	5144691-16	87	103	76	3887	Floor	UUT1216-1	1.82	1	1 ½	2
Optima CT 660 Gantry, PET Specific	5856010	MMMM E	y: Moh	nammac	A 42171						
PATIENT TABLES	C	YXXXXX WX	XXYYYVAVAAAAA								
PROSCAN Patient Table	5101900	26	136	22 / 42	1808 ^[3]	Floor	UUT10390-3	1.82	1	1 ½	2
Mobile Ready Global PET-CT Table Ed3	5101900-20	26	A 136	22 / 42	1808	Floor	SAME	1.82	1	1 ½	2
CONSOLES		CV		1		10					
Console Assembly (HDe6)	5940904-10	15.7	26.4	22.7	138	Floor	UUT1805-2	1.10	1	2 ½	2
Revolution EVO Open Console, WSO	5946404-21	15.7	26.4	22.7	138	Floor	SAME	1.10	1	2 ½	2
Revolution Frontier Open Console	5940904-12	15.7	26.4	22.7	142.2	Floor	UUT1818-1	1.10	1	2 ½	2
Operator Console – Z8G4	5946404-22	15.7	26.4	22.7	142.2	Floor	SAME	1.10	1	2 ½	2
Revolution EVO Open Console w/ Z8G4	5946404-21_Z8G4	15.7	26.4	22.7	142.2	Floor	SAME	1.10	1	2 ½	2
POWER DISTRIBUTION											
PDU	2326492-61	27.6	21.7	41.8	818	Floor	UUT1313-2	1.10	1	2 ½	2

NOTES

- BASIS:
 - UUT#: Indicates that a unit matching these characteristics was tested as part of this testing program.
 - SAME: Model is physically, mechanically & electrically the same as test specimen. Difference is limited to model number, color and/or software.
 - INT (Interpolate/Extrapolate): indicates a model not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line.
- - Floor (Rigid Base) Mount: free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.
- Patient Table weight does not include the 300 lb. simulated patient load present during testing.
- PET-CT Gantry requires the use of Seismic Option Collector 5737048
- Seismic certification is limited to functions related to Computed Tomography (CT) for diagnostic assessment of trauma.

 Gray italic formatting indicates unit is not a component of system and is included only to provide a basis for seismic qualification of a similar system component.

Phone (909) 606-7622 | OSP@EaseCo.com www.SpecialSeismicCertification.com 06/02/2021 OSP-0680 Page 4 of 11



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

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TABLE 2:

System Mfr. GE HEALTHCARE System Discovery IQ PET/CT System (2021)									$S_{DS} = 1.52$ z/h = 1		
	MODEL	APPRO	X. DIMENSI	ONS (IN.)	MAX. WT.						
SYSTEM COMPONENTS	NUMBER	W	D	Ĥ	(LB.)	MOUNT [2]	BASIS [1]	F _P /W _P	аР	R_P	Ω_0
PET-CT GANTRIES											
Discovery IQ PET-CT Gantry			-OR	CODE							
Optima CT-540 Gantry, PET Specific	5432539-22	89	101	76	3887	Floor	UUT1612-1	1.82	1	1 ½	2
25cm Odyssey PET Gantry	5900025-20	lu.			3500						•
Discovery IQ PET-CT Gantry						4					
Optima CT-540 Gantry, PET Specific	5432539-22	89	101	76	3887	Floor	INT	1.82	1	1 ½	2
20cm Odyssey PET Gantry	5900020-20	24/1		SD_06	3450	MS.					
Discovery IQ PET-CT Gantry		4/ L	01	51 -00	90	XXXXX					
Optima CT-540 Gantry, PET Specific	5432539-22	89	101	76	3887	Floor	INT	1.82	1	1 ½	2
15cm Odyssey PET Gantry	5900015-20		BY: Moh	ammad	A 3400°						
Discovery IQ PET-CT Gantry			XX (VVVVVAAAAAAAAAA								
Optima CT-540 Gantry, PET Specific	5432539-22	89	101	76	3887	Floor	INT	1.82	1	1 ½	2
10cm Odyssey PET Gantry	5900010-20	− W///I	PATE: 0	6/02/20	3350						
Discovery IQ PET-CT Gantry	1	0		+		12					
Optima Elite CT Gantry, PET Specific	5432539-20	777.4	93.59	76	3887	Floor	UUT1409-1	1.82	1	1 ½	2
25cm Columbia PET Gantry	5990025	\\			3800						
PATIENT TABLES			PALL		00						
PROSCAN Patient Table	5101900	26	136	22 / 42	1808 [3]	Floor	UUT10390-3	1.82	1	1 ½	2
Mobile Ready Global PET-CT Table Ed3	5101900-20	26	136	22 / 42	1808	Floor	SAME	1.82	1	1 ½	2
CONSOLES											
Open console (HP Z8G4)	5946404-15	15.8	26.4	22.7	142	Floor	UUT1914-2	1.10	1	2 ½	2
Open console (HP Z8G4)	5941604-26	15.8	26.4	22.7	142	Floor	SAME	1.10	1	2 ½	2
POWER DISTRIBUTION	•		•			•		<u> </u>			
NGPDU-71	2326492-71	27.6	21.7	41.8	813	Floor	UUT1308-2	1.10	1	2 ½	2

NOTES

- BASIS:
 - UUT#: Indicates that a unit matching these characteristics was tested as part of this testing program.
 - SAME: Model is physically, mechanically & electrically the same as test specimen. Difference is limited to model number, color and/or software.
 - INT (Interpolate/Extrapolate): indicates a model not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line.

Table continues next page



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

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TABLE 2:

System Mfr.	GE HEALTHCARE	$S_{DS} = 1.52$
System	Discovery IQ PET/CT System (2021)	z/h = 1
	2. MOUNT:	
	• Floor (Rigid Base) Mount: free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure	and no lateral
	support above the base.	
	Patient Table weight does not include the 300 lb. simulated patient load present during testing.	
	4. Seismic certification is limited to functions related to Computed Tomography (CT) for diagnostic assessment of trauma.	
	5. Gray italic formatting indicates unit is not a component of system and is included only to provide a basis for seismic qualification of a similar s	system component.



ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT1601-1	Discovery M	l Digital Ready Pl	ET-CT Gantry			
Manufacturer:	GE Healthcare	,				
Identification:	Model No.: 5454	CT PET 001-170 5990025 0002 10002	5			
Description:	The tested configue gantry in a complete Functionality verifical imaging. Tested with enhance	t of the Discovery PET-C ration included both a PE te PET-CT assembly. cation was limited to func- cements to the standard a Seismic Option Collector	T gantry and a CT tions related to CT production model			
Mounting:	Rigid Base (Floor)	mounted using	R CODE			
	(11) – 5/8" dia GR	EDF0		MA		
	(11) – 5/8" dia GR Dimensions (in	.) MED FO		Lowes	st Resonant Frequenc	ey (Hz.)
Width		L) Height	Weight (lb.)	Lowes Side-Axis	st Resonant Frequenc	ey (Hz.) Vert-Axis
Width 77.4	Dimensions (in		Weight (lb.) 7855			, ,
77.4	Dimensions (in	Height 76		Side-Axis	Front-Axis	Vert-Axis
77.4	Dimensions (in Depth 93.59	Height 76		Side-Axis	Front-Axis	Vert-Axis

		DATE:	06/02/2021			
UUT1216-1	Discovery 610	PET-CT Gantry		/0/		
Manufacturer:	GE Healthcare	7		201		
Identification:	PET Model: 5856010 PET S/N: 12658PT1	CT Model 5 CT S/N: 25	6144691-16 6315HM3	confi		
Description:	System component of BrightSpeed Elite Discovery 610 Pt The tested configurati gantry in a complete F Functionality verification imaging.	e CT Gantry (Brightsp ET Gantry on included both a PE PET-CT assembly.	eed MERI) ET gantry and a CT	Rie	ght	
Mounting:	Rigid Base (Floor) Mo (4) – 5/8" Dia Gr, 8 bo (6) – 5/8" Dia Gr. 8 bo (10 anchors total)	Its to interface frame				
	Dimensions (in.)			Lowes	st Resonant Frequen	cy (Hz.)
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis
87	103	76	8,039	6.8	8.3	9.5
ICC-ES AC156 Sh	ake Table Test Parame	ters				Code: 2019 CB
S _{DS} (G)	z/h	l _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0 2.6	1 0	1.5	3.2	2.4	1.74	0.70

Unit satisfied AC156 requirements for structural integrity and remained functional per manufacturer requirement.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT10390-3	PROSCAN	Patient Table				
Manufacturer:	GE Healthcare					
Identification:	P/N: 5101900			A		
	S/N: 176453HM	19				1
Description:		nent of several GEHC conent of Discovery P				700
Mounting:		or) Mounted using ter SAE J429 Grade 8	B bolts to interface			
	Dimensions (in	.)		Lowes	st Resonant Frequen	cy (Hz.)
Width	Depth	Height	Weight (lb.)	X-Axis	Y-Axis	Vert-Axis
25.6	135.8	22 / 42	1808	*/	5.3	>33
ICC-ES AC156 Sha	ke Table Test Para	meters	OSP-0680	1118		CODE: 2019 CBC
S _{DS} (G)	z/h	I _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
1.52	1	1.5	2.43	1.82	1.02	0.41
Unit satisfied AC156	requirements for str	uctural integrity and re	emained functional per n	nanufacturer requirem	ent.	•

UUT1805-2	Console Asse	mbly (HDe6)	06/02/2021						
Manufacturer:	GE Healthcare	C	+						
Identification:	Model No.: 5940904-1 Serial No.: HDe60_00								
DESCRIPTION:	Component of the Rev Open style console HP Z840 Computer	rolution Frontier CT sy	BUILDING	1					
Description:	Rigid Base (Floor) more GE console to floor more Console Anti Seismic I - (2) – M6 x 16 10.9 CI (P/N 2262896-30) - (2) – Flat washers (P - (1) – 3/8" dia. ASTM washer.	ounting assembly (3 lo Bracket (P/N 5357148 ass bolts (Torque = 7 /N 2001-M8-02)	3-3) each w/ .9 N-m)						
	DIMENSIONS (in.)			LOWEST	RESONANT FREQU	ENCY (Hz.)			
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis			
15.7	26.4	22.7	138	14.46	30.24	35.92			
ICC-ES AC156 SH	IAKE TABLE TEST PAR	RAMETERS				CODE: 2019 CBC			
S _{DS} (G)	z/h	l _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)			
2.0 2.5	1 0 1.5 3.2 2.4 1.68 0.68								
Unit satisfied AC15	66 requirements for struc	tural integrity and rem	ained functional per n	nanufacturer requirem	nent.				



ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT1818-1	Console Asse	embly				
Manufacturer:	GE Healthcare	,		-	0-0-	
Identification:	Model No.: 5940904 Serial No.: 4600490					
Description:		Revolution Frontier CT ounted in an open sty			6	
Mounting:	Console Anti Seism - (2) – M6 x 16 flang RoHS fastener (To - (2) – Flat washers	mounting assembly (nic Bracket (P/N 5357 ge screw, hexagon so prque=7.9 N-m) (P/N	148-3) each w/ ocket, black oxide 2262896-30)			
	Dimensions (in.)		Lowes	st Resonant Frequen	ncy (Hz.)
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis
15.7	26.4	22.7	142.2	15.12	34.41	48.65
ICC-ES AC156 SH	AKE TABLE TEST P	ARAMETERS	OSP-0680	11/201		CODE: 2019 CBC
S _{DS} (G)	z/h	Ip	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0 2.5	1 0	1.5 _{Y:} N	Iohamr ^{3,2} ad Alia	ari ^{2.4}	1.68	0.68
Unit satisfied AC15	6 requirements for stru	uctural integrity and re	emained functional per n	nanufacturer re <mark>quire</mark> m	ent.	•

Manufacturer:	GE Hangwei Medica	al Systems CO., LTD		0		
Identification:	Model No.: 2326492	2-61		L.V	6 : DED	9
	Serial No.: 322132	HM2		ODV	087	
Description:		of several GEHC CT nt of Optima CT580				
Mounting:	washer throug plate. (4 anch GE mounting assen (2) – Seismic Brack Each bracket mount (2) – M10-1.5 X25m Black Oxide (7 (2) – M10 Lock Was	1 A574 Socket Head of the each GE mounting fors total) hely including: et, System Cabinet (F	bracket to floor P/N 2354563-2) Head Cap Screw, D7)			
	Dimensions (in.)			Lowes	st Resonant Frequenc	cy (Hz.)
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis
27.6	21.7	41.8	796 + 22 brackets = 818	15.7	19.9	45
ICC-ES AC156 SHA	KE TABLE TEST PAR	AMETERS				CODE: 2019 CBC
S _{DS} (G)	z/h	l _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0 2.6	1.0 0.0	1.5	3.20	2.40	1.74	0.70
Unit satisfied AC156	requirements for struct	ural integrity and rem	nained functional per m	nanufacturer requirem	ent.	

UUT1313-2

NGPDU-61

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT1612-1	Discovery IQ	PET-CT Gantry				
Manufacturer:	GE Healthcare	,				4
Identification:		antry PET G 339-22 590002 10HM4	,			
Description:	The tested configu gantry in a comple	t of the Discovery IQ PE ration included both a PI te PET-CT assembly.	ET gantry and a CT			
Mounting:	Rigid Base (Floor) (10) – 5/8" dia GR		D CODE O			
		CDFO		AT A STATE OF THE	The same of the sa	The last
	Dimensions (in	a) WEDFO		Lowest	Resonant Frequenc	cy (Hz.)
Width	Dimensions (in	L) Height	Weight (lb.)	Lowest Side-Axis	Resonant Frequence Front-Axis	cy (Hz.) Vert-Axis
Width 89	`		Weight (lb.)		•	, ,
89	Depth	Height 76		Side-Axis	Front-Axis	Vert-Axis
89	Depth 101	Height 76	7387	Side-Axis	Front-Axis	Vert-Axis 21.0

	N V	MM DATE: 06/02/2021			
UUT1409-1	Discovery IQ PET-CT Gantry				
Manufacturer:	GE Healthcare				
Identification:	PET Model: 5900025 PET S/N: 13465PT0	CT Model 5432539-20 CT S/N: 256329HM4			
Description:	System Component of the Discovery IQ PET-CT System: Optima Elite CT-540 Gantry Sometimal PET Gantry The tested configuration included both a PET gantry and a C gantry in a complete PET-CT assembly. Functionality verification was limited to functions related to C imaging.				
Mounting:	Rigid Base (Floor) mounter (12) – 5/8" dia GR 8 hex he	d using ead bolts to interface frame.			



Dimensions (in.)			Lowest Resonant Frequency (Hz.)				
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis	
77.4	93.59	76	7687	7.4	8.8	8.9	
ICC-ES AC156 Shal	ke Table Test Parame	ters				Code: 2019 CBC	
S _{DS} (G)	z/h	l _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)	
2.0 2.5	1 0	1.5	3.2	2.4	1.68	0.68	
Unit satisfied AC156	Unit satisfied AC156 requirements for structural integrity and remained functional per manufacturer requirement						

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT 1914-2	Open Conso	ole w/ Z8G4				
Manufacturer:	GE Hangwei Medic	al Systems Co., LTD.		MA THE		7 F The /
Identification:	Model No.: 594640 Serial No.: 0000000					
Description:	Systems - HP Z8G4 Comput - Open style consol	e trolled verification uni				
Mounting:	()	r Kit 5812703-2 J429 Grade 8 bolts to	o test fixture. s included standard w/			
	Dimensions (in) NE		Lowes	st Resonant Frequen	cy (Hz.)
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vertical-Axis
15.8	26.4	22.7	141.5 w/ brackets	14.6	30.1	26.2
CC-ES AC156 Shall	ke Table Test Parar	neters	OSP-0680	100		Code: 2016 CBC
S _{DS} (G)	z/h	-I _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	/Johammad Alia	2.4	1.68	0.68

UUT1308-2	NGPDU-71	DATE:		/0/			
Manufacturer:	GE Healthcare	P		0			
Identification:	Model No.: 232649	2-71		4:1	. DE	- S 0 9 1	
		PA		-00	<u></u>		
Description:	System component of the Optima CT540 / CT540+, Discovery NM/CT 670 Pro and Discovery NM/CT 670 CZT.						
Mounting:	washer through plate. (4 anch GE mounting asser (2) – Seismic Brack Each bracket mour (2) – M10 x 25mm (2) – M10 Lock Wa	M A574 Socket Head gh each GE mounting nors total) mbly including: ket, System Cabinet (l	P/N 2354563-2) ue= 38.4 N-m) 07)				
	Dimensions (in.)			Lowes	st Resonant Frequen	cy (Hz.)	
Width	Depth	Height	Weight (lb.)	Side-Axis	Front-Axis	Vert-Axis	
27.6	21.7	41.8	813	17.2	15.6	32.6	
ICC-ES AC156 SHA	AKE TABLE TEST PA	RAMETERS				CODE: 2019 CBC	
		1	A (C)	A _{RIG-H} (G)	A (C)	A (O)	
S _{DS} (G)	z/h	l _P	A _{FLX-H} (G)	ARIG-H (G)	A _{FLX-V} (G)	A _{RIG-V} (G)	
S _{DS} (G) 2.0 2.6	z/h 1.0 0.0	1.5	3.20	2.40	1.74	0.70	