



# Error Model Maintenance Sub-Committee

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Chair Contact: Marc Willerth, H&P  
[marc.willerth@hpinc.com](mailto:marc.willerth@hpinc.com)



## 68 Attendees

- 47 in person
- 19 Online

## Key Items

- Revision 5 vs. 5.1 naming convention
- Rotating 6-axis Error Model “Final” items
- Mixed Mode Surveying



## Request for Feedback – What to Call Rev 5 / 5.1?

Revision 5 was technically adopted in 2020

- Minor update prior to wide implementation
- “Beta” versions of Rev 5 have been in circulation that do not include these changes

What do we call the final adopted rev5?

Currently group is leaning toward calling “5.1” just rev5



## Rotating Survey Tool Code “Final Push”

### Decisions that were made:

- No glaring omissions from proposed error terms
  - Minor harmonization on weighting functions
- A prototype full tool code **is** needed
  - Workgroup to assess if “conservative” option is viable
- Guidance document for background and usage needed



# Rotating Survey Tool Code Guidance Document

- Tool Expectation
- Error source explanations and origins
- Explain gaps in provided error model
- Discuss checks / comparison with static survey
  - How to do an Internal RIP test, special misalignments
  - How often to perform checks (like building angle, etc)
- Similar guidance to minimum MSA requirements



## Presentation from Jerry Codling Mixed Mode Surveys

- Overlapping survey legs that are not redundant
- Intend to keep all stations
- Not all error sources apply to all survey stations
  
- Improve legacy gyro tool codes
- Enable better Static vs. Continuous MWD Handling
- Enable more “utility” survey stations



# Mixed Mode Proposal – Open to Feedback

#Name	Vector	Tie-On	Unit	Value	Formula	min	max	Do IF	Not IF	
axyz-mis	i	s	d	0.0095		1				
axyz-sf	i	s	-	0.000111	$1.3 * \sin(\text{inc}) * \cos(\text{inc})$					
axyz-zb	i	s	-	0.0017	$\sin(\text{inc}) / \text{gtot}$					
nxygb1	n	n	-	1	$\sin(\text{azt}) / (\text{erot} * \cos(\text{inc}))$	0	15	static	dynamic	
nxygb2	n	n	-	1	$\cos(\text{azt}) / \text{erot}$	0	15	static	dynamic	
nxyggd4	n	n	-	1	$\sin(\text{azt}) * \sin(\text{inc}) / \cos(\text{inc}) / \text{erot}$	0	15	static	dynamic	
nxygrn	n	n	-	1	$\sqrt{1 - (\cos(\text{azt})^2 * (\sin(\text{inc})^2))} / (\text{erot} * \cos(\text{inc}))$	0	15	static	dynamic	
gxy-b1	a	s	d	0.15	nxygb1					
gxy-b2	a	s	d	0.15	nxygb2					
gxy-g4	a	s	d	0.6	nxyggd4					
gxy-rn	a	r	d	0.4	nxygrn	0	15	static	dynamic	
gxy-rn	a	s	d	0.4	$0.4082 * \text{nxygrn}$	15.1	150	dynamic	static	
runsp	n	n	m	2743		1				
dgxygd	n	n	-	1		0	0	15	static	dynamic
dgxygrw	n	n	-	1		0	0	15	static	dynamic
dgxygd	n	n	-	1	$\text{dgxygd} * \cos(\sin(\text{inc}) * 0.5 * \text{dia})$	15.1	150	dynamic	static	



Thank you / Questions?