

VALID Past, Present, and Future

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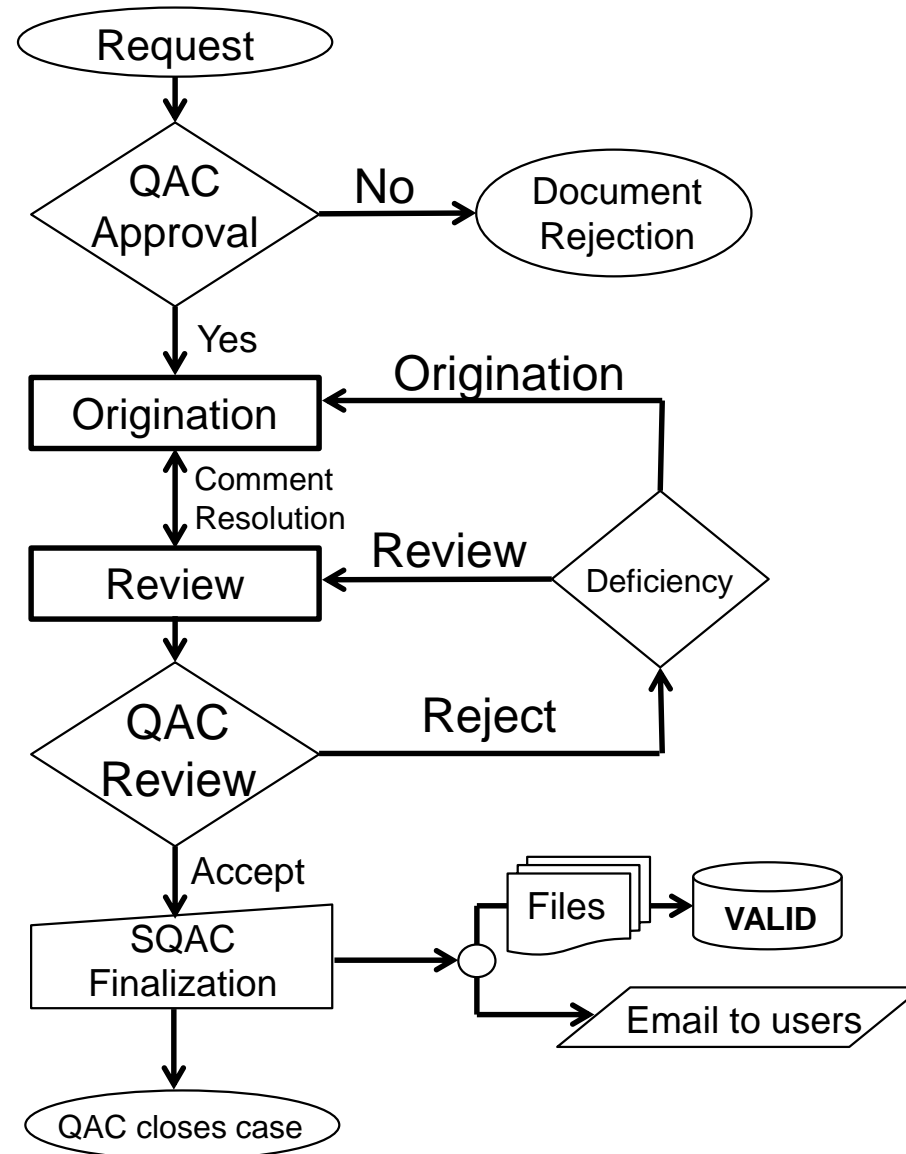
Outline

1. VALID procedure
2. VALID contents
3. Future plans for VALID
4. Conclusion

VALID procedure

- Verified, Archived Library of Intputs and Data
- Managed per computational procedure under the overall SCALE quality assurance plan
- Principle is two independent, qualified people prepare and review the model
 - Dual, independent check is primary barrier to errors in the library
- Final check by VALID QAC of procedural compliance

VALID procedure (continued)



VALID Contents

Experiment category	Evaluations included	Total number of cases available
KENO V.a Cases		
HEU-MET-FAST	-015, -016, -017, -018*, -019*, -020*, -021*, -025, -030, -038, -040, -052, -065	23 [†]
HEU-SOL-THERM	-001, -013, -014, -016, -028, -029, -030	52
IEU-MET-FAST	-002, -003*, -004*, -005*, -006, -007, -008, -009, -019	11 [†]
LEU-COMP-THERM	-001, -002, -008, -010, -017, -042, -050, -078, -080	140
LEU-SOL-THERM	-002, -003, -004	19
MIX-COMP-FAST	-005, -006	2
MIX-COMP-THERM	-001, -002, -004	21
MIX-SOL-THERM	-002, -007	10
PU-MET-FAST	-001, -002, -005, -006, -008, -010, -018, -022, -023, -024, -025, -026	12
PU-SOL-THERM	-001, -002, -003, -004, -005, -006, -007, -011, -020	81
U233-COMP-THERM	-001	3
U233-MET-FAST	-001, -002, -003, -004, -005, -006	10
U233-SOL-INTER	-001	29
U233-SOL-MIXED	-001, -002	8
U233-SOL-THERM	-001, -002, -003, -004, -005, -008, -009, -011, -012, -013, -015, -016, -017	140
KENO-VI Cases		
HEU-MET-FAST	-005, -008, -009, -010, -011, -013, -024, -080, -086, -092, -093, -094	27
IEU-MET-FAST	-019	2
MIX-COMP-THERM	-008	28
* Both detailed and simplified models included		
† Total includes both detailed and simplified models		
Also note that 118 PWR RCA sample models are in VALID based on work using SCALE 5.1 documented in ORNL/TM-2010/44.		

Future plans for VALID

- Always plan to add more experiments, but which ones?
- Deuterium: review underway for all ICSBEP cases containing D
- ZEUS intermediate and fast spectrum evaluations
- Intermediate enrichment experiments
 - Support basis for HALEU validation and licensing
- Other cases of interest to sponsors
 - TSLs, including graphite and plastics
 - Graphite for HTGRs
 - Lead and/or sodium for fast reactors
- Mixed/intermediate spectrum experiments

Questions?

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