

HEAT RELEASE RATE Updates

Virtual Materials Working Forum

Smoke Monitoring Research

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April 20th, 2021



Federal Aviation
Administration



HR2/NBS Smoke Monitoring Research



Heat Release Rate Test Apparatus
April 2021



Federal Aviation
Administration

Measurement of Smoke in HR2

DIFFERENCES TO CONSIDER

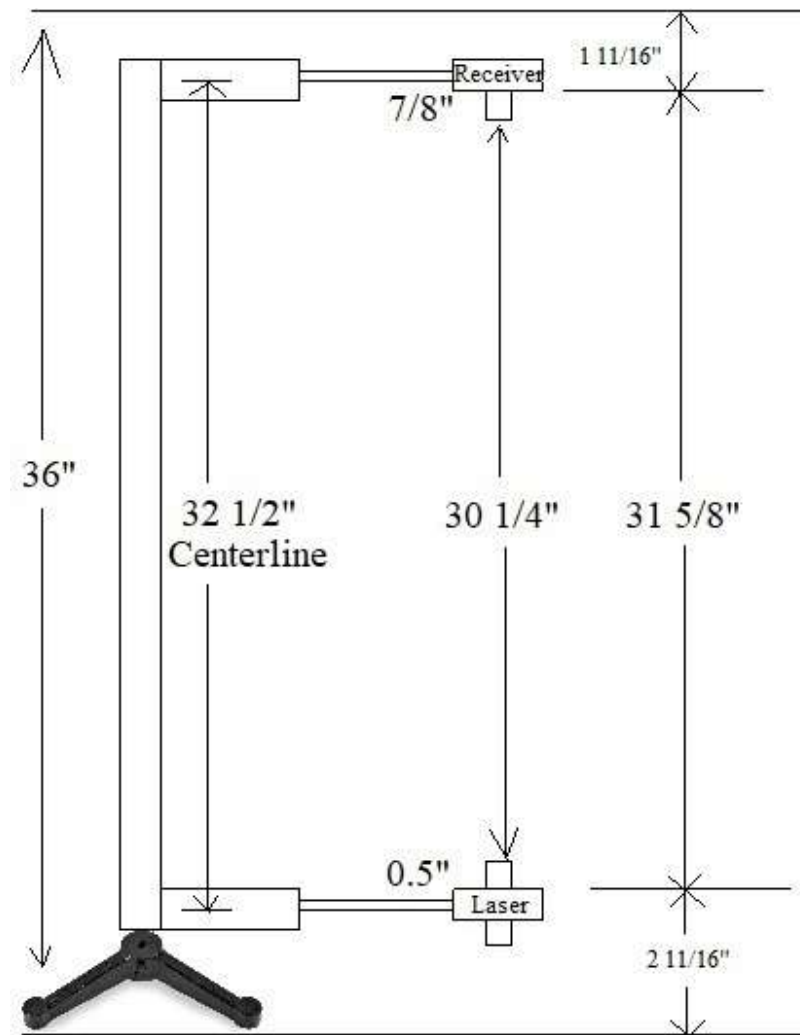
	NBS Smoke Density Chamber	Heat Release Rate Apparatus
Heat Flux	2.5 W/cm ²	3.5 W/cm ²
Air Flow	None (sealed box)	~ 20 CFM (vented)
Sample Size	3" x 3"	6" x 6"
Light Detection	Photomultiplier	Laser
Light Path	3'	3' (or optimized to 8")
Duration	4 minute	5 minute
Evaluation	Peak Ds	Peak Ds Rate / Total Ds



Measurement of Smoke in HR2



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Measurement of Smoke in HR2

Stock Number

Edmund Optics OD Filters

54731

FILTER ND MTD 0.3OD 58X0.75

54737

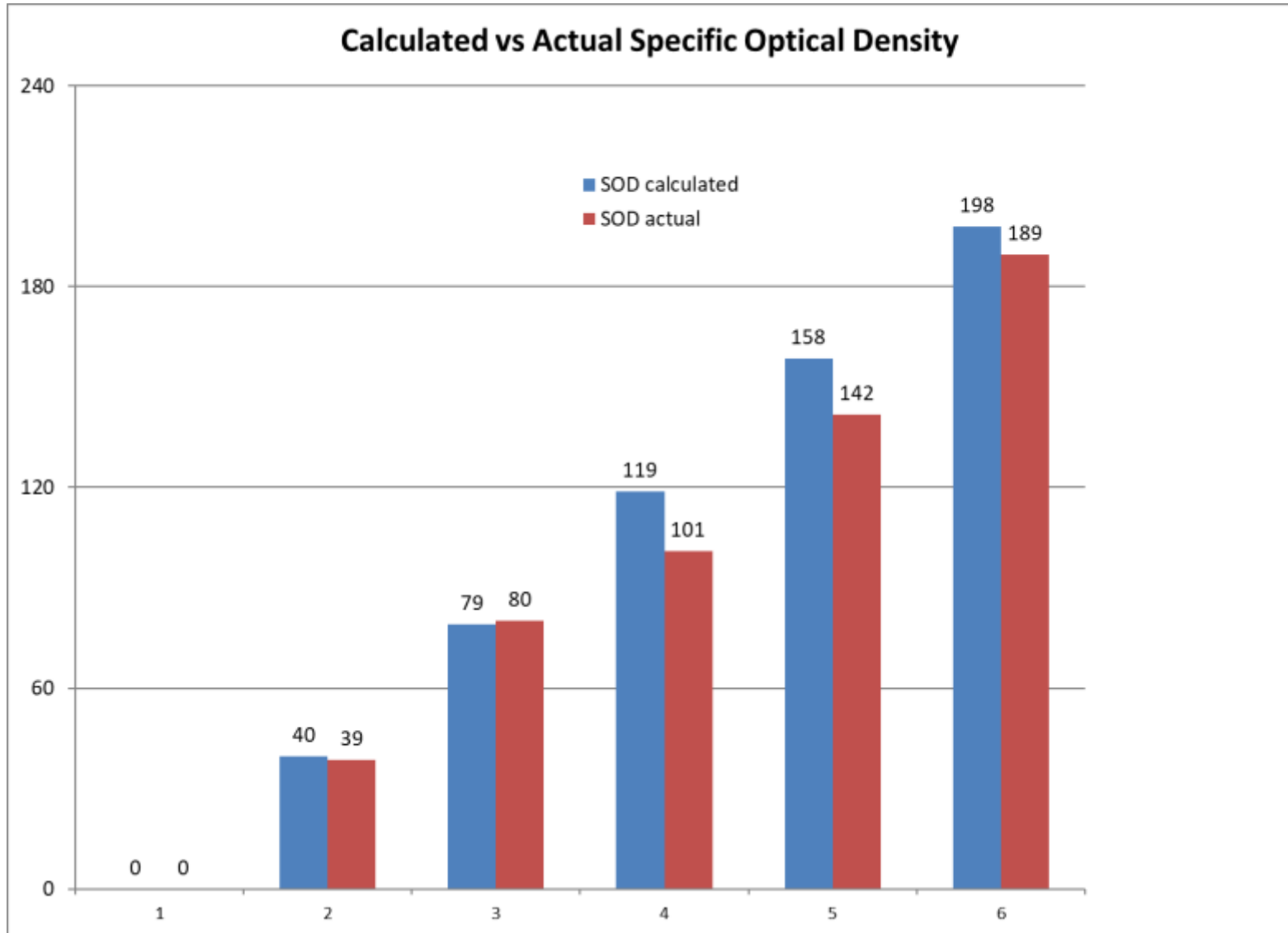
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54743

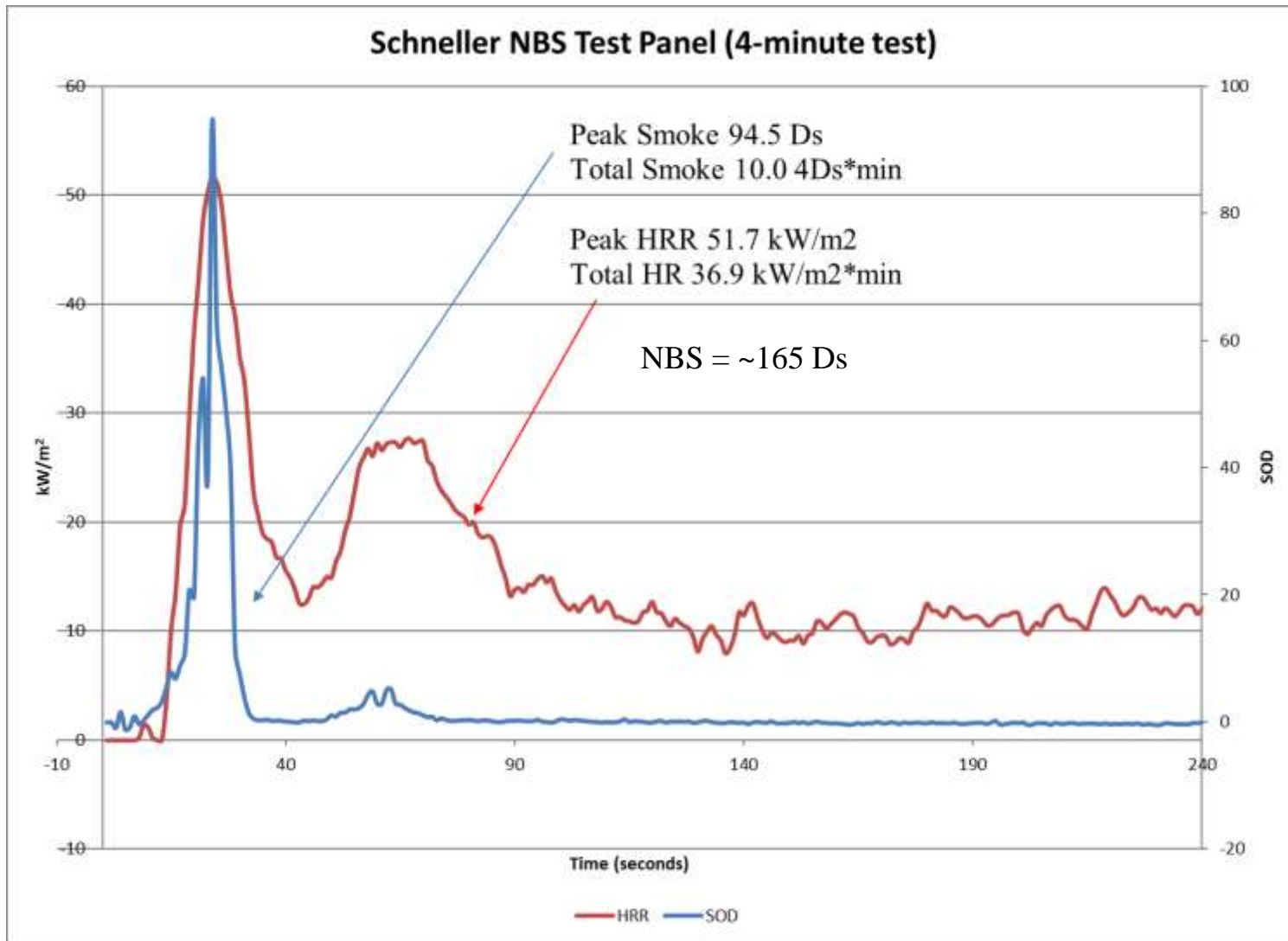
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Measurement of Smoke in HR2

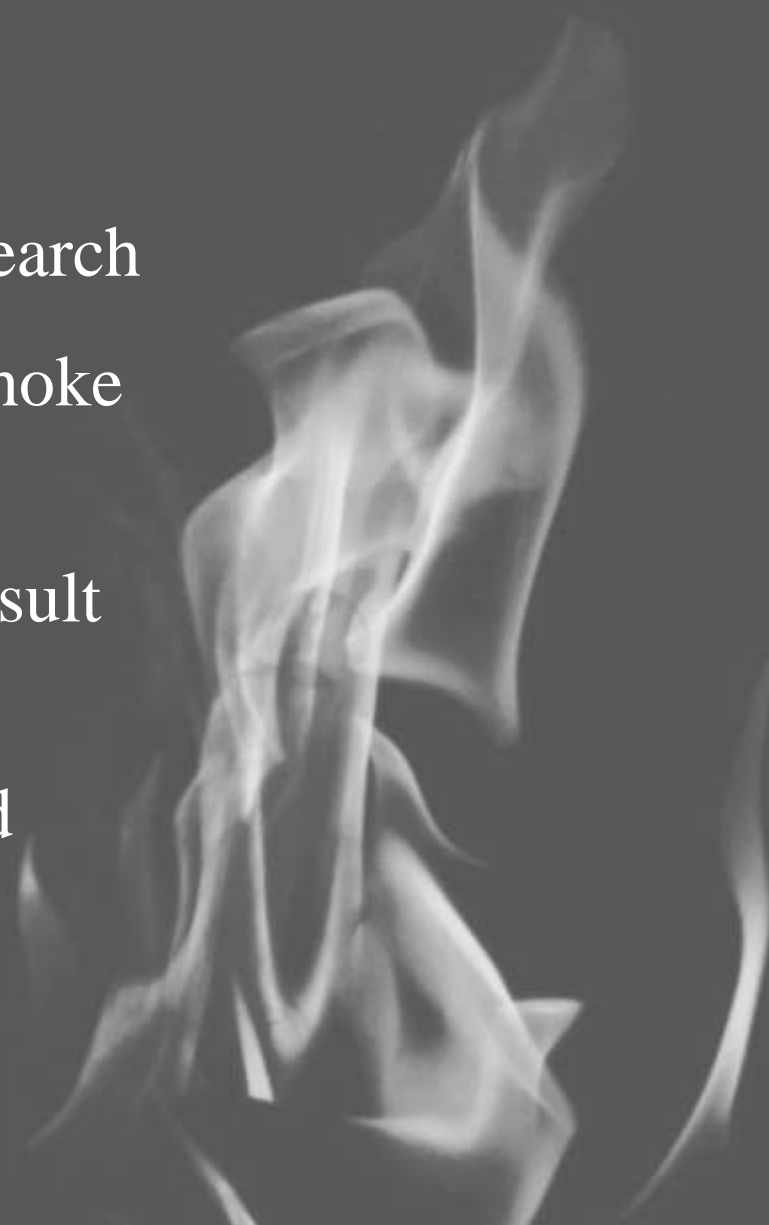


Measurement of Smoke in HR2



Next Steps

- Continue Smoke Monitoring Research
- Continue development of sonic choke work as needed
- Develop advisory material as a result of the M.E. HR2 inspection
- Update HB 3 document as needed
- Schedule TRL 6 retesting
- Continue New Heater R&D work



Questions May Be Directed To:

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