



AIR TECHNIQUES  
INTERNATIONAL

# ***Report On The Department of Energy Filter Test Facility***



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*Nuclear Air Cleaning Conference*

*July 2006*



# **Air Techniques International Test Laboratory**

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- DOE Oak Ridge Filter Test Facility closed March 31, 2005
- Air Techniques International established an independent Filter Test Laboratory in Baltimore, Maryland
- DOE Filter Test Facility Privatized
- DOE Headquarters with several site representatives performed an ASME/ANSI NQA-1 Quality Audit on the ATI Filter Test Laboratory
- DOE issued contract to ATI Filter Test Laboratory (ATITL) to perform tasks of the former DOE Filter Test Facility



*Air Techniques International Test Laboratory*



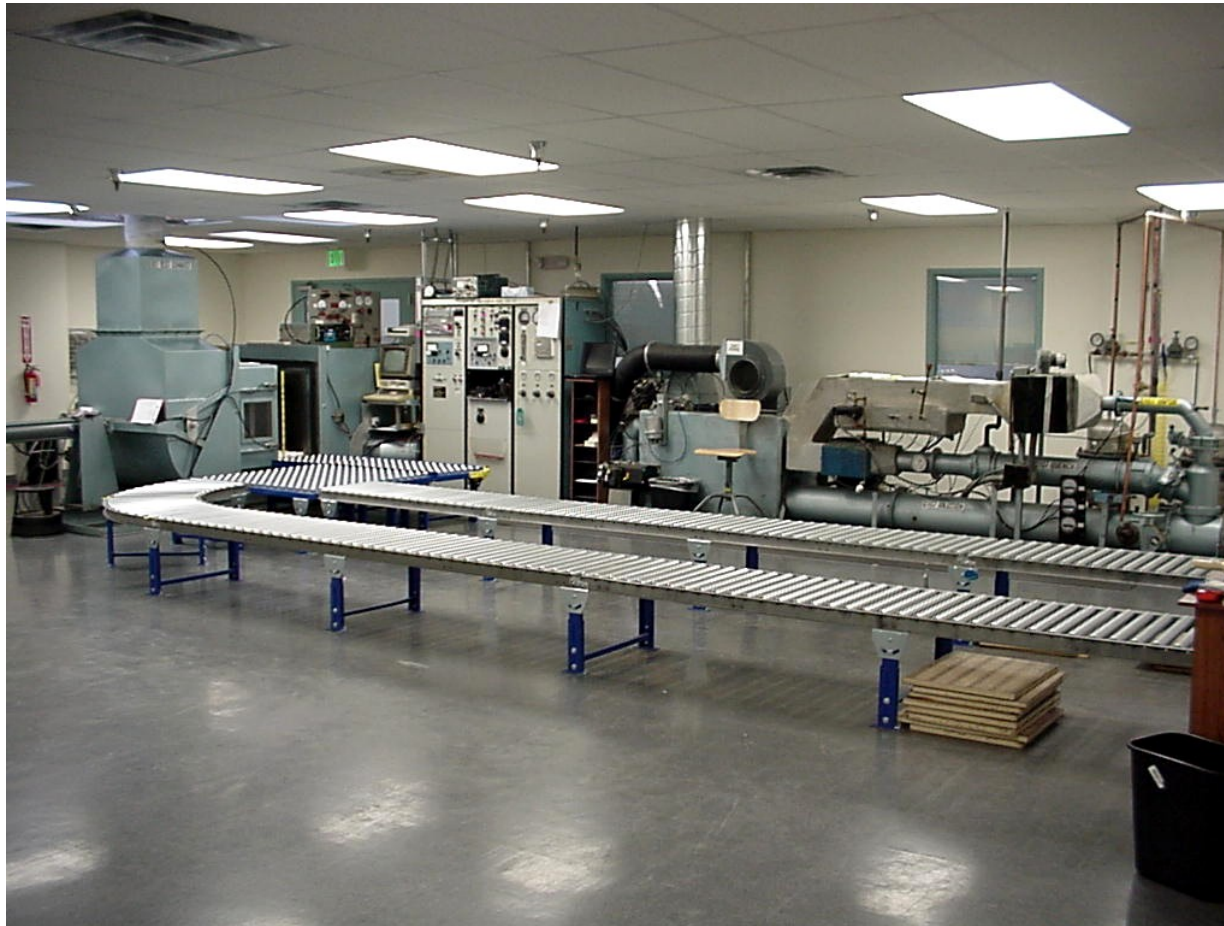
# **Air Techniques International Test Laboratory**

## **1708 Whitehead Rd., Baltimore, MD 21207**





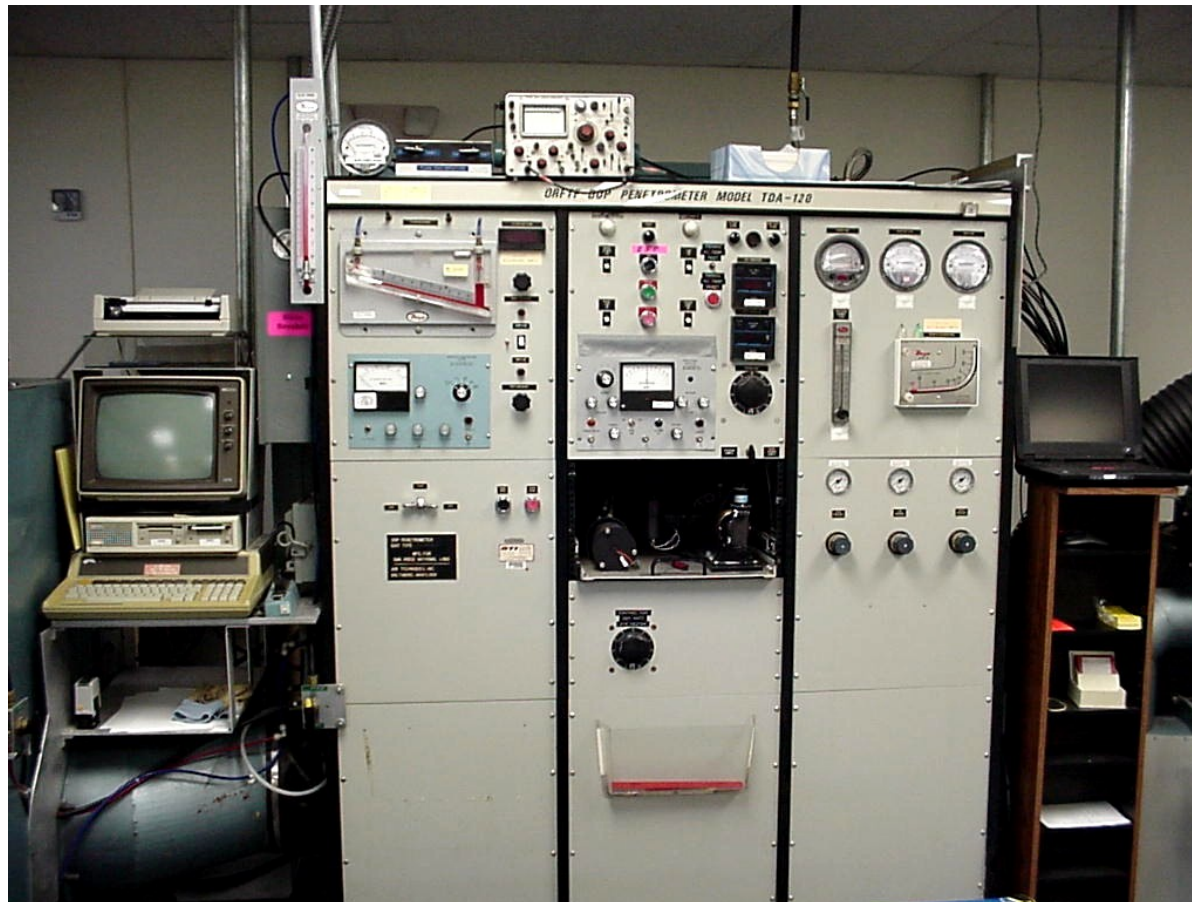
## **Q-107 Monodispersed Aerosol Penetrometer (200 to 2500 cfm)**





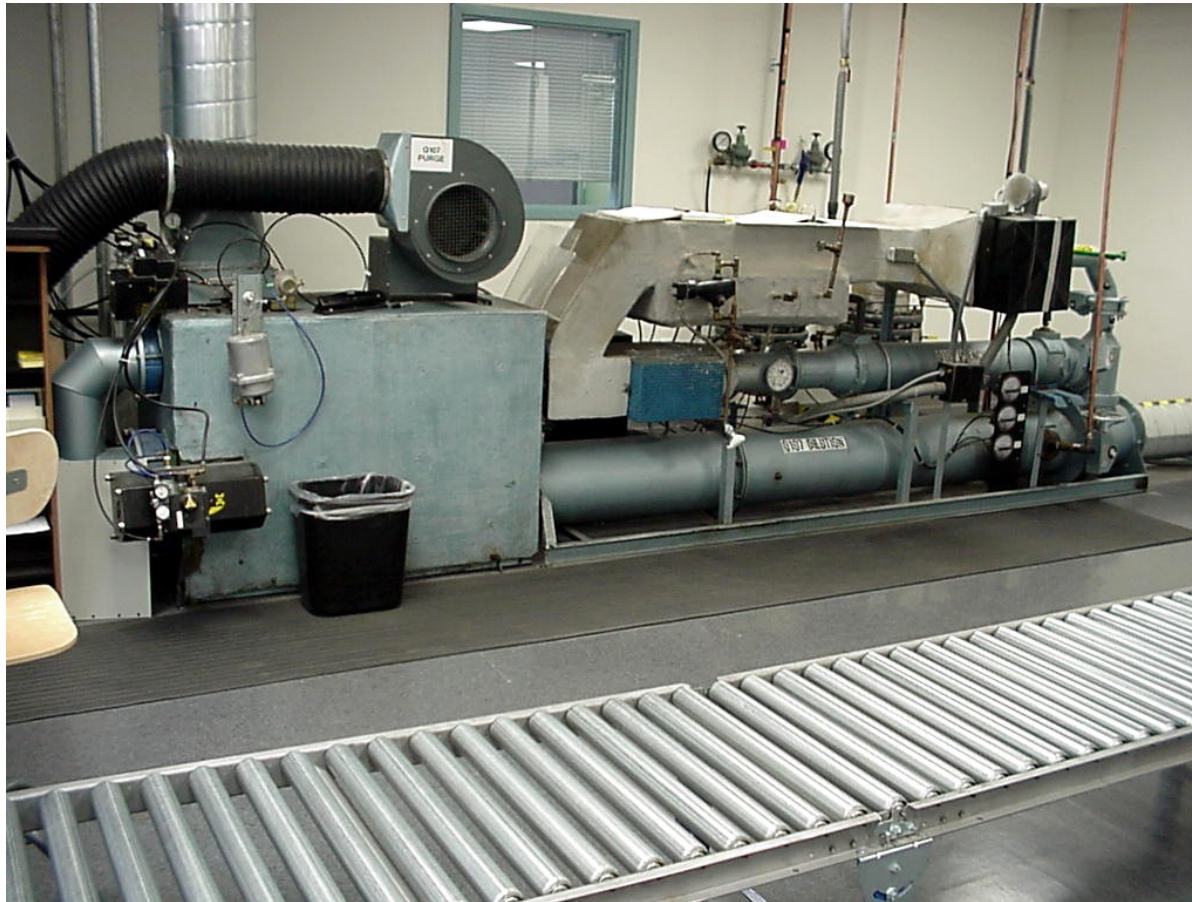


## Q-107 Control Console





# Q-107 Monodispersed DOP Aerosol Generator





## **Q-107 Filter Test Housing (Chuck)**







## HFATS Polydispersed Aerosol Generators (R2D2)







# HFATS Control System & Computer



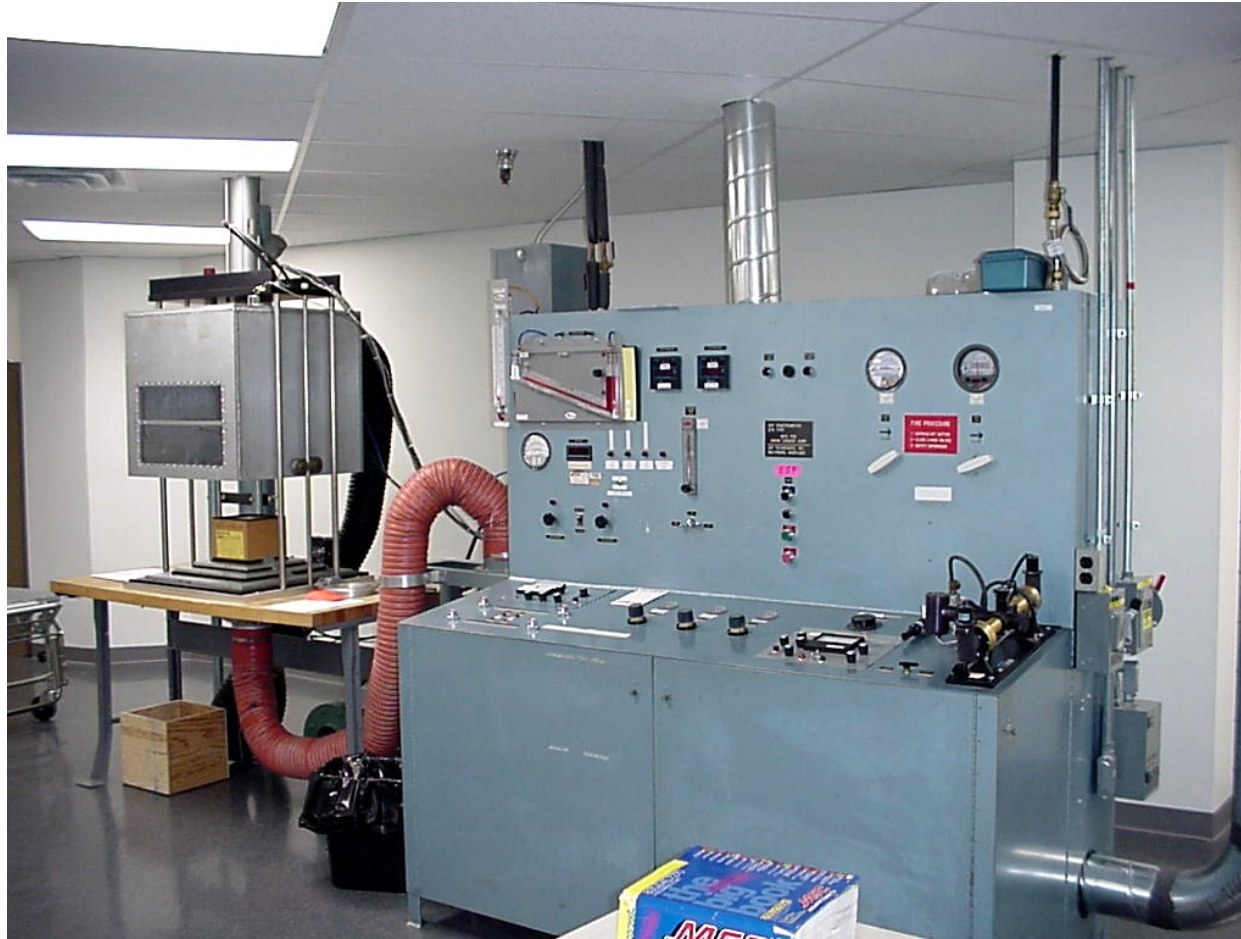


## Q-107 Testing In Action





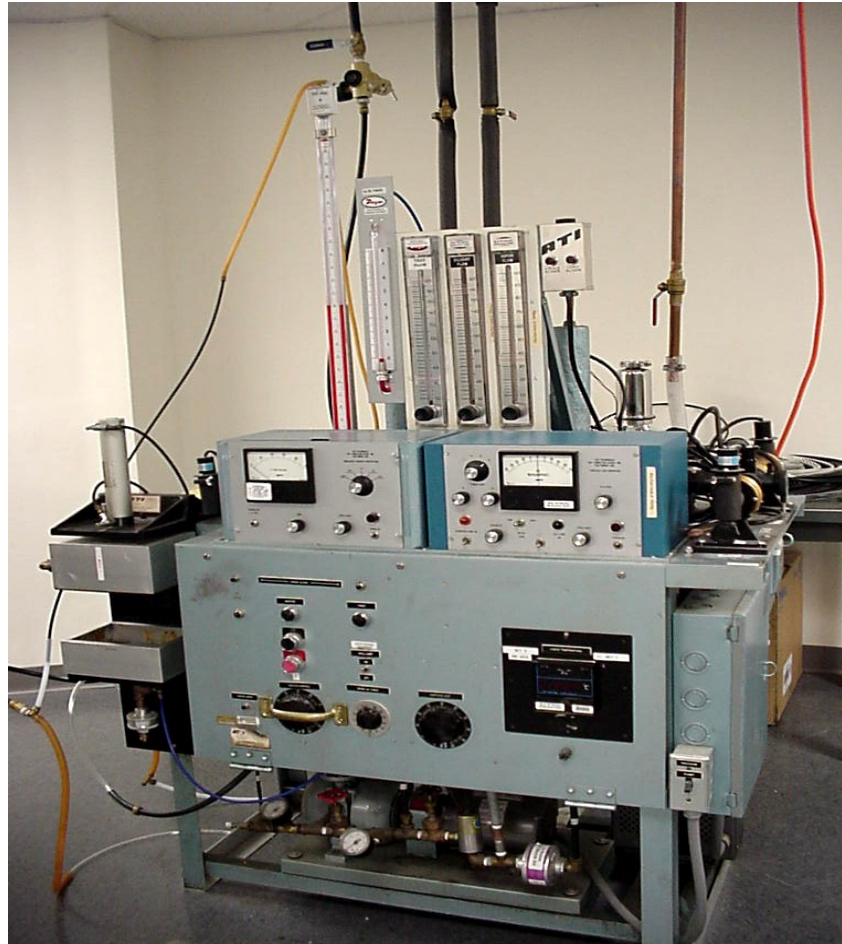
## **Q-76 Monodispersed Aerosol Penetrometer (10 to 300 cfm)**







## **Q-127 Monodispersed Aerosol Penetrometer 0.1 to 4 cfm**







## ATITL Warehouse Laboratory End





## ATITL Warehouse Reject Area







## ATITL Warehouse Dock Area





## **Operational Overview – ATI Test Laboratory**

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- **Commitment to the DFNSB by the Secretary of Energy Memo, June 4, 2001 (and further reinforced in Secretary's letter of July 11, 2003 to the DFNSB with mandate in place, the ATI Test Lab is to be utilized**
- **HEPA testing verification service is provided to all DOE Contractors in the DOE complex on a no charge basis**
- **DOE work has top priority and emergency orders are always given precedence over other orders**
- **ATITL personnel endeavor to accommodate all DOE customers to make HEPA testing verification a simple task**





## **Operational Overview - DOE Filter Test Facility**

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- **Current Customers**

**Argonne National Laboratory – Illinois**

**Argonne National Laboratory – Idaho**

**Battelle Northwest (PNL)**

**Bechtel BWXT Idaho, LLC (BBWI) (INEEL)**

**Bechtel BWXT Y-12**

**Bechtel Nevada**

**BWXT Pantex Plant**

**Bechtel Jacobs ETTP (K-25)**

**Bechtel Jacobs X-10**

**Brookhaven National Laboratory**

**CH2M Hill Hanford**

**CH2M-WG INEL**

**Duratek X-10**



## **Operational Overview - DOE Filter Test Facility**

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- **Current Customers (cont.)**

**Fluor Hanford**

**INEL Battelle**

**Jefferson Lab**

**Lawrence Livermore National Laboratory**

**Los Alamos National Laboratory/KSL**

**Sandia National Laboratory**

**UT Battelle/Oak Ridge National Laboratory**

**Washington TRU Solutions**

**Waste Isolation Pilot Plant**

**Westinghouse Savannah River Company**

**West Valley Nuclear Services**



## DOE Program's

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- Office of Environmental Management (EM)
- National Nuclear Security Administration (NNSA)
- Office of Nuclear Energy (NE)
- Office of Science (SC)
- Office of Environmental, Safety & Health (EH)



## Summary of Filters Tested Since 1996

Fiscal Year	Number Tested	Number Rejected	Percentage Rejected
1996	2,643	493	18.7%
1997	2,916	102	3.5%
1998	2,305	68	3.0%
1999	2,362	37	1.6%
2000	3,597	354	9.8%
2001	2,722	217	8.0%
2002	2,127	102	4.8%
2003	2,772	151	5.4%
2004	3,441	215	6.3%
2005*	2,331	168	7.2%

\* Test facility closed 5 months for relocation and audit





## Summary Of Filter Rejections

Fiscal Year	Resistance	Penetration	Mfg. Defects	P.O./Spec Discrepancy	Shipping Damage	Total
1996	371	70	35	17	0	493
1997	59	20	7	16	0	102
1998	1	28	3	34	2	68
1999	0	31	6	0	0	37
2000	0	43	36	270	5	354
2001	0	30	174	9	4	217
2002	0	20	42	32	8	102
2003	0	26	93	27	5	151
2004	3	36	86	86	4	215
2005*	8	19	56	81	2	166

\* Test facility closed 5 months for relocation and audit



## Rejection Categories

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- Resistance – Exceeds criteria of 1.0 “ w.g. for filters rated  $\geq 500$ -1250 cfm and 1.3” w.g. for filters rated  $\leq 125$  -  $\geq 1500$  cfm
- Penetration – Exceeds 0.03%
- Manufacturing Defects – (not limited to) Defective gaskets, faceguard installation, filter pack installation, defective media, sealant problems, separators, missing rivets or bolts, dimensional tolerance, out of square measurements, etc.
- P.O/ Specification Discrepancy – (not limited to) missing UL labels, labeled incorrectly, filters rated incorrectly, wrong model number, etc.
- Shipping Damage – evident from damage to filter cartons or concealed when damage is not evident until the filter(s) are removed from cartons



## **Summary of Filters Tested at the New ATI Test Laboratory**

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<b>Fiscal Year</b>	<b>Number Tested</b>	<b>Number Rejected</b>	<b>Percentage Rejected</b>
<b>1<sup>st</sup> half FY 2006</b>	<b>801</b>	<b>88</b>	<b>10.7</b>



## **Summary Of Filter Rejections at the New ATI Test Laboratory**

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<b>Fiscal Year</b>	<b>Resistance</b>	<b>Penetration</b>	<b>Mfg. Defects</b>	<b>P.O./Spec Discrepancy</b>	<b>Shipping Damage</b>	<b>Total</b>
<b>1<sup>st</sup> half FY 2006</b>	<b>0</b>	<b>43</b>	<b>41</b>	<b>4</b>	<b>0</b>	<b>801</b>



## **In Summary – ATI Test Lab Is Fulfilling Its Mission!**

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- **The privatization of the DOE FTF has been successfully accomplished**
- **ATI Test Lab continues to streamline the process for increased efficiency and minimum turn-around**
- **The most consistent cause for filter rejection has been purchase order/specification discrepancies and manufacturing defects**
- **With improved work processes, the ATI Test Lab is maintaining a 5 day turn-around on most orders**
- **ATITL personnel continue to work with manufacturers on quality related issues**





## **Any Questions?**

### **We Are Here To Serve You**

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