



# Technology

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## **CCI ECCS strainer**

**ACRS Meeting, August 24, 2006**

## **Resolution of GSI 191**

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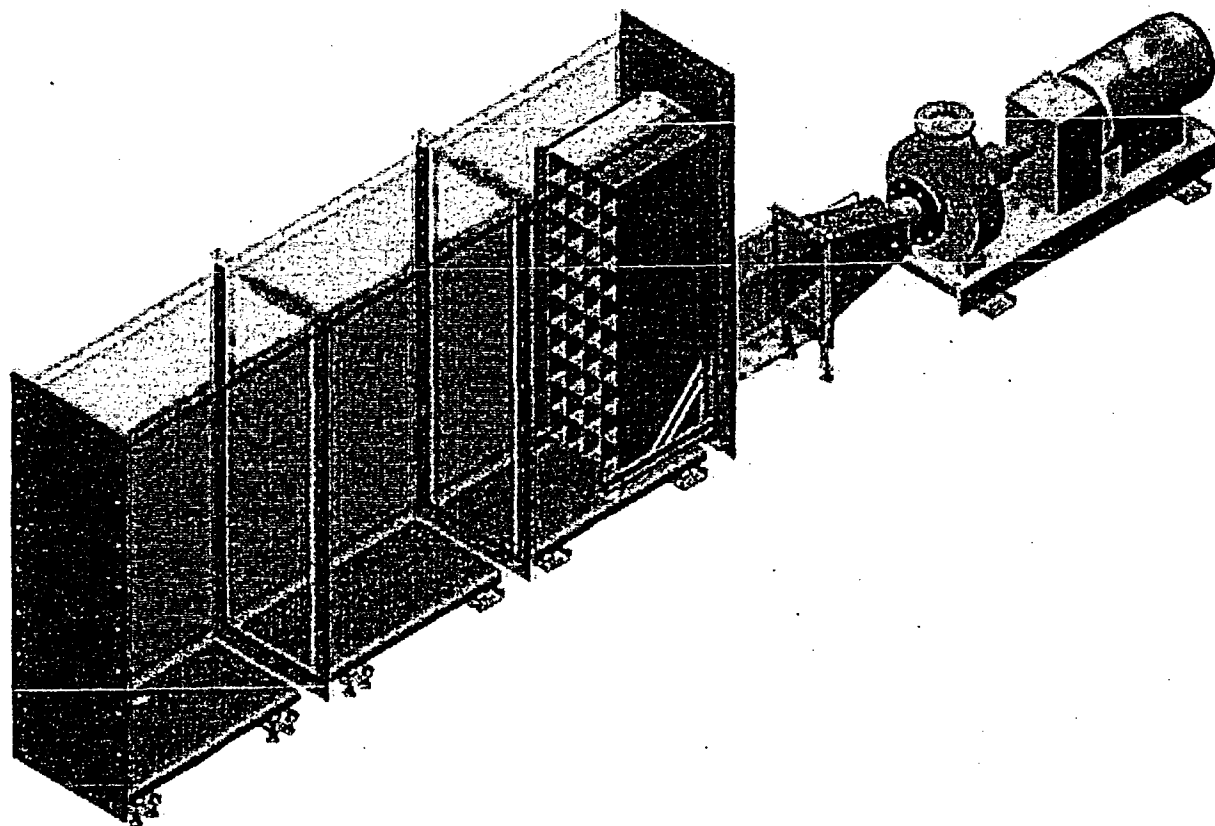
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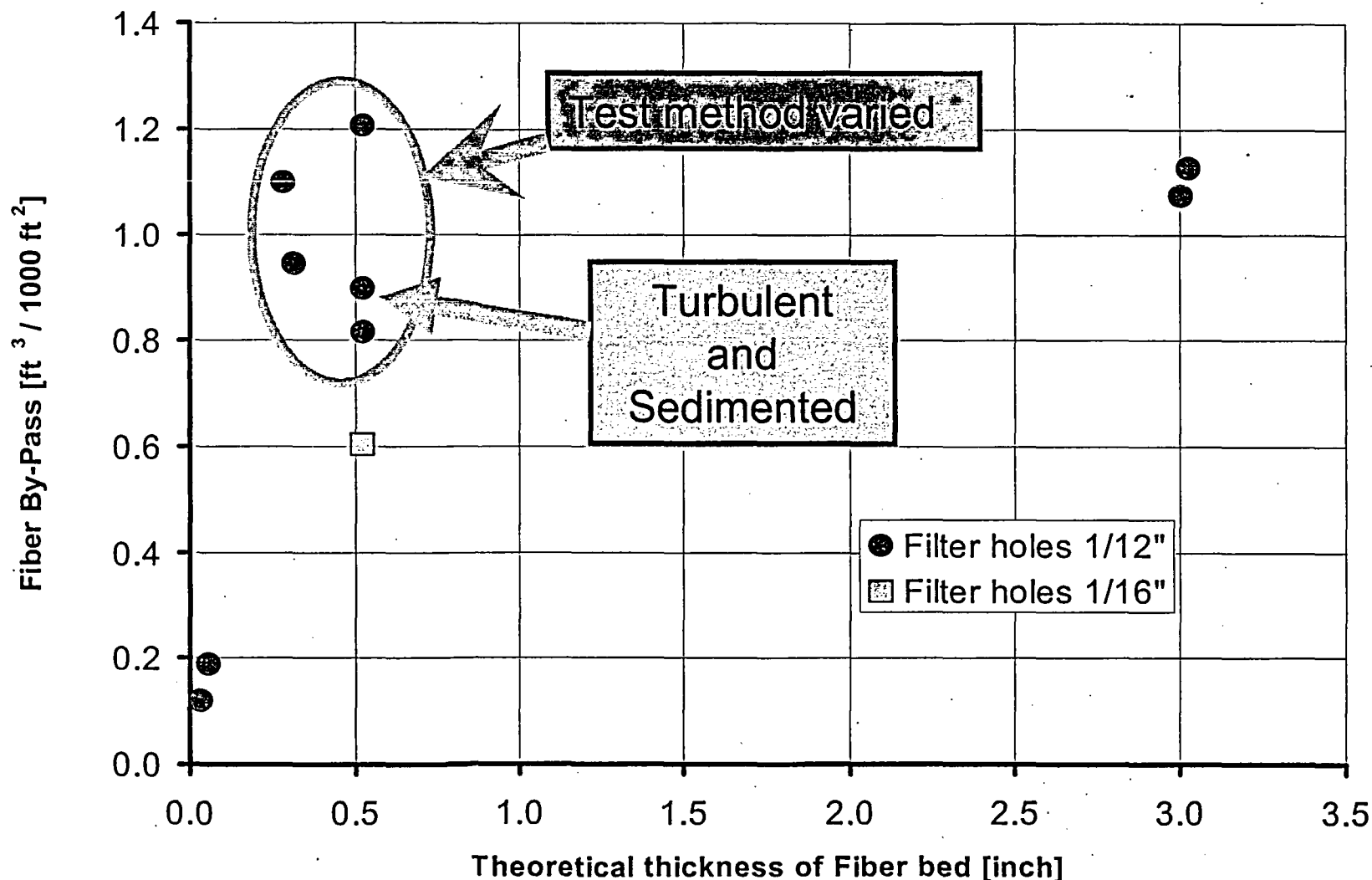
## Screen By-Pass Test



## Fiber By-Pass Test Results

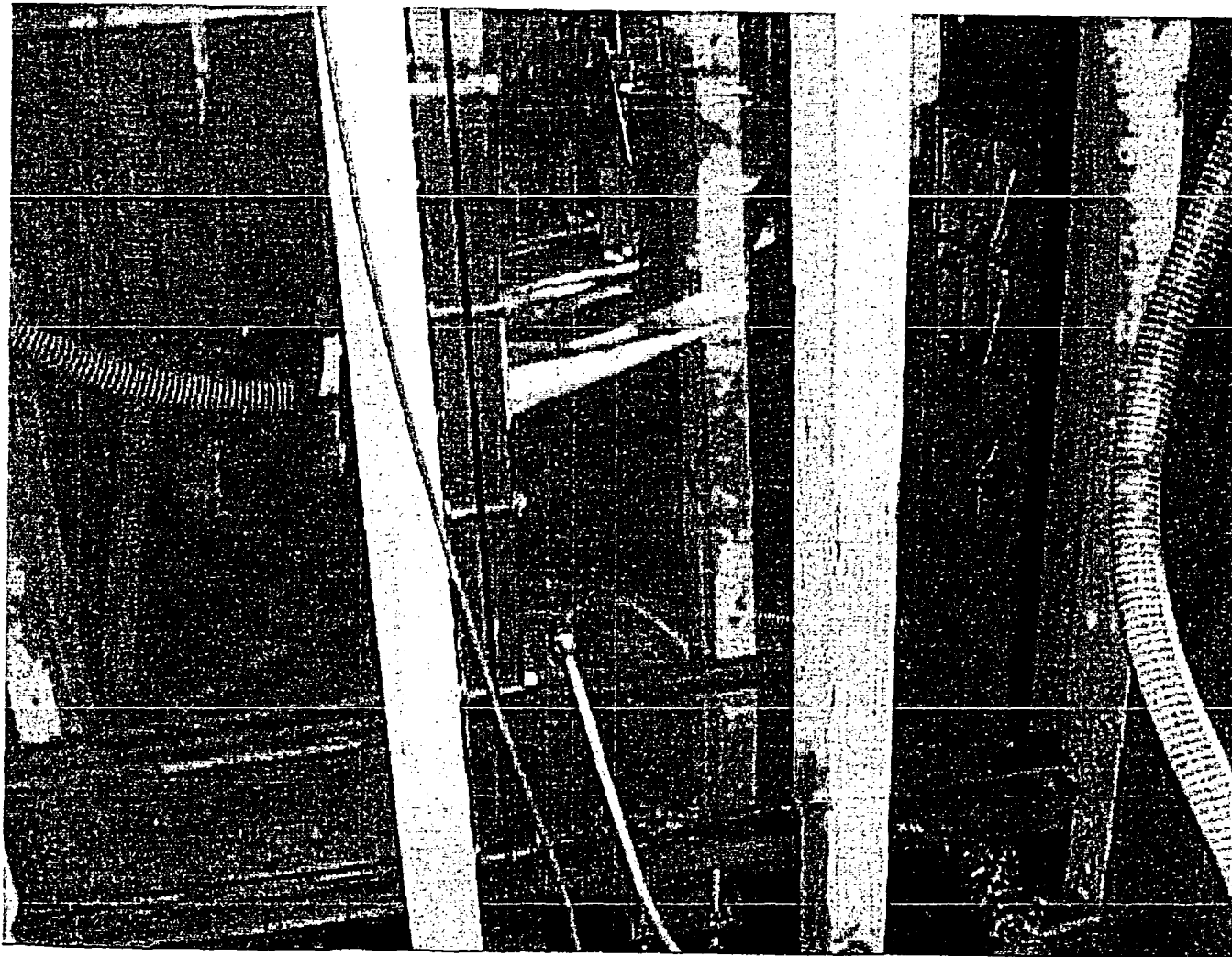
Fiber By-Pass related to 1'000 ft<sup>2</sup> filter area

Approach velocity 0,00393 ft /s



## Screen Bypass Test

Hand stirred



## Screen Bypass Test With sedimentation



## Fiber By-Pass Size analysis

	fiber size	amount of fiber
class 1	0.1 to 0.5 mm	63.1 %
class 2	0.5 to 1.0 mm	27.3 %
class 3	1.0 to 2.0 mm	8.2 %
class 4	> 2.0 mm	1.4 %

Test done with screen  
hole size of 1/12"  
(2,1mm)

Table 2: Bypass Test Data

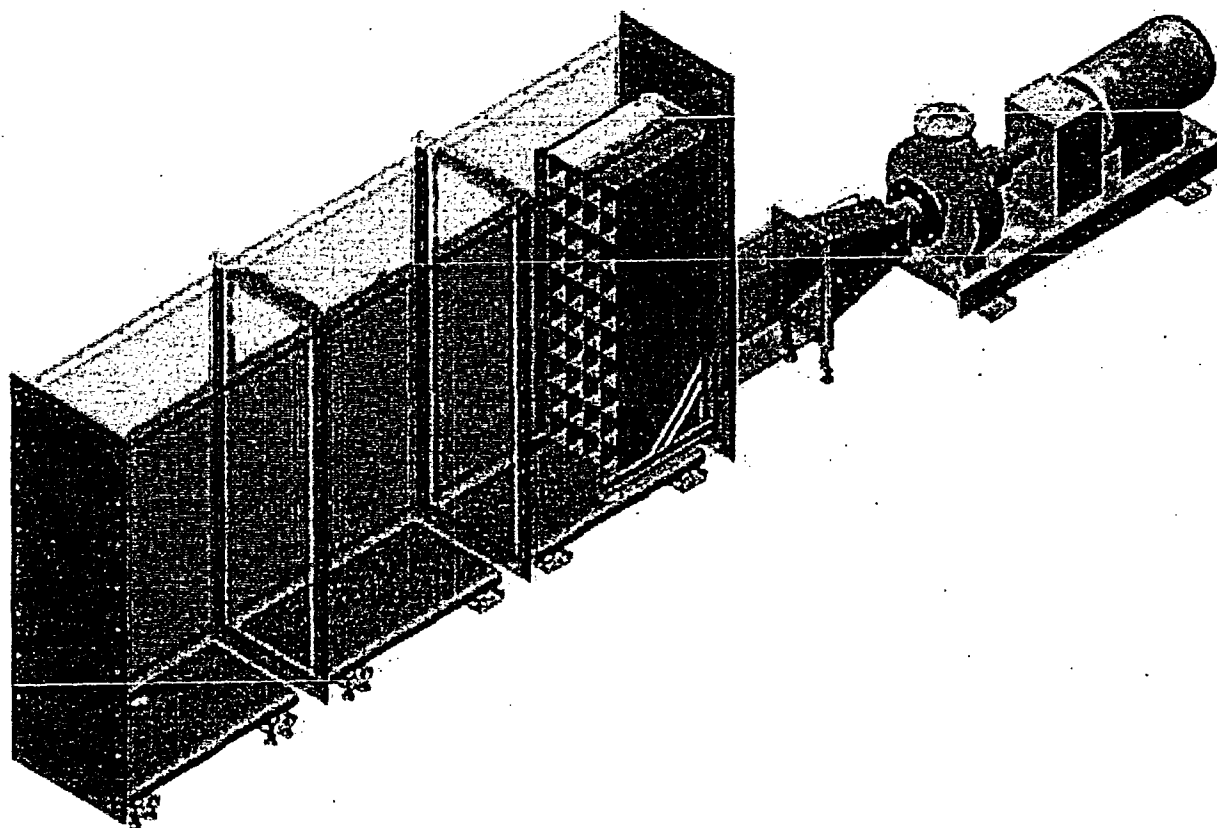
### Conclusion:

The measured length of the fiber By-Pass is for about 2/3 smaller than 0,02" (0,5mm) and for 90% smaller than 0,04" (1mm)

## Results and Conclusions of By-Pass Testing

- Above approx. 0,25" equivalent fiber bed thickness the By-Pass is more or less constant
- Size of perforation holes influences the By-Pass approx. linear with the hole diameter
- Test procedure influences the test result not significantly
- Reduction of screen area does not reduce By-Pass due to increased approach velocity
- Size of fiber, passing the screen is small

## Head Loss due to Chemical Effects





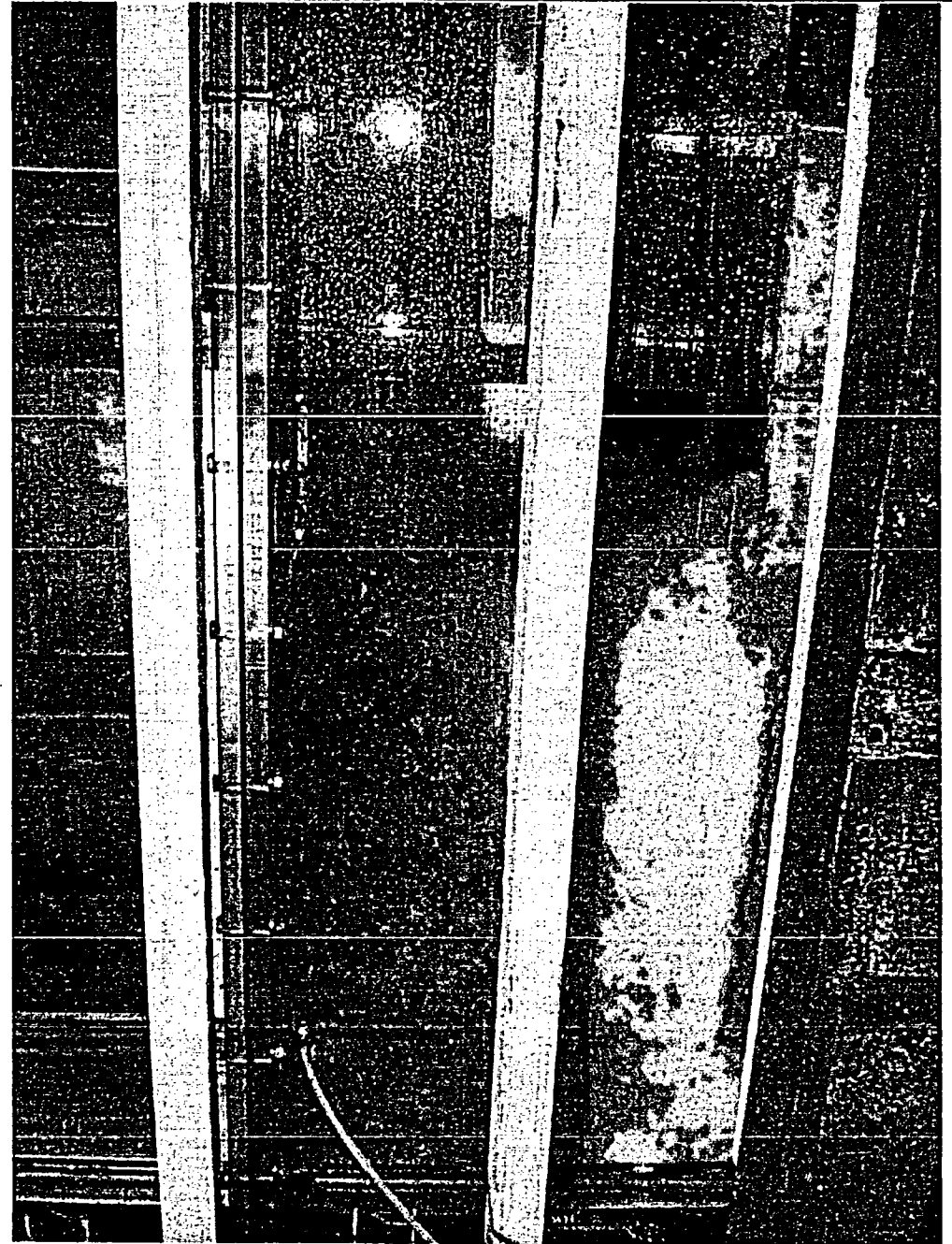
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## Screen Bypass Test

High turbulence flow





## Content

- General Topics
  - ECCS strainer replacement project
  - Design features of CCI strainers
  - Test facilities
  - Strainer design parameters
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  - Key observations during testing
- Specific Topics
  - Scaling methodology of Test results
  - Debris preparation Methodology
  - Debris Introduction Methodology
  - Head Loss due to Chemical Effects
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  - Termination Criteria