

70COPE Report Ornstein Laboratorium

Adress: Princetonplein 1, Utrecht

Report of

Participants:

Wout Jan Weide date of visit 11/04/2024
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Mrs Astrid Drenth (Aon Risk Consulting)
Mr Wout Jan Weide (Chubb Risk Engineer, writer of this report)

Introduction:

The University of Utrecht was visited April 11th, 2024 for a survey to get an impression of the exposures and controls. The building has In general in use as laboratory (60 %) and offices (40%).

Number of stories: 3 (and in addition a basement) Year built: 1970

(Main) NIACs Code: 611311 A property class 6

OCCUPATION:

The building has In general in use as laboratory (60 %) and offices (40%). The building will in the future get a more intense use as a part of the laboratories of the present Kruytbuilding will move into this facility next to the existing researches. This is planned for 2026. At present the laboratories are in use for lasers, and nano research (including the use of ignitables and some gasses). Fume hoods have individual exhaust systems (all located in the roof build up).

CONSTRUCTION:

The building has a FR construction (heavy concrete). The total building is made of concrete (walls, floors and roof. The roof is probably insulated with PIR and covered with a roof felt. The concrete roof is classified as a thermal barrier and therefore the building is classified FR.

Chubb Fire Construction Class: FR (100%)

Internal combustible panels: None

External combustible panels: None

Superior Protected Risk: No

RPF: 10 % all other, for Asbestos and some soft board panels along the ceilings of the laboratories.

LOSS ESTIMATES:

Ornstein Laboratory

	PD	BI over 36 months
TIV (Three buildings together)	€ 68.477.000	€ 50.000.000,- (extra expenses)
Amount Subject	100 %	20 %
PML	100%	100 %
NLE	50 %	50 %

The building is relatively small but with a good construction. Under AS and PML conditions it has to be expected that the total building will be lost (due to the limited dimensions). Under NLE situations the fire detection will be alarmed and fire retardant doors will delay fire spread. A part of the building and contents might be saved. A rough estimation is that the NLE is 50 %.

Water supplies for firefighting:	AAA	Fire brigade	AAA
Management Controls	AA	Risk Alert	No
% of location sprinkled	0	% of location requiring sprinkler	0
Chubb grade Serious Deficiency	No		
Smoke detectors	AA		
Burglary alarm	AA		
RPF other factors	10 %	(Asbestos and some soft fibre board panels along ceilings)	

PROTECTION:

The water supply is by means of underground hydrants good. The public professional fire brigade arrives in 10 minutes. The selective fire alarm is directly forwarded to the central station. The building is provided with fire detection (in laboratories and corridors) in combination with compartmentalization. The present protection is classified adequate.

A burglary alarm system is installed. Alarm follow up is done by a security service with the station around the corner (less than 2 minute drive). The building has also a good entrance control system.

Evaluation of Exposures:

Ignitables: In the laboratories are ignitables used (liquids, solid materials and gases). Although not all laboratory rooms were visited we have the impression that this is done with adequate controls. There are fume hoods present, gas bottles are chained to prevent falling, ignitables are stored in special fire retardant cabinets with ventilation and spill trays, etc.

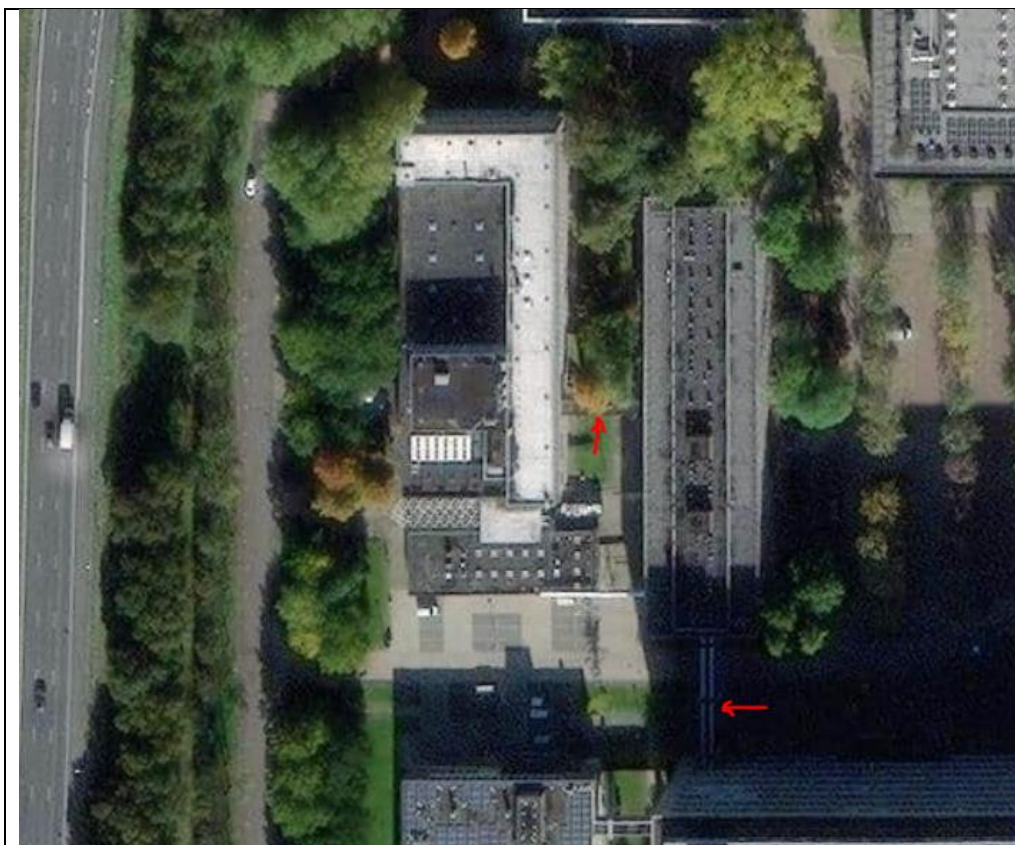
Coffee machines: A general recommendation is made to install water locks for the water supply of coffee machines (see rec.).

Fire hazards: The fire hazards can be sub divided into:

- Unmanned (endurance testing): This is done in laboratories that are equipped with fire detection and the security service can arrive in some minutes. In general these tests are on a small scale in laboratory environments.
- The electrical installation. The electrical installation is checked in accordance with the local standards NEN 3140 including infrared scanning. The cable penetrations are properly sealed off by a specialized contractor.
- Cooking device: in a meeting room is a cooking device (electrical heated) installed close to foam plastic cushions. This represents an unacceptable risk and the cooking device and/or cushions need to be removed (see rec and photo).
- The next door building (ESRON) is going to be renovated. During this renovation the risk of fire is increased. The connecting bridge (single layer) corridor should be 60 minutes fire retardant separated at the ESRON side to prevent fire spread (see rec.).

Water damage: The coffee machines are connected to the tap water system without a water lock (see rec.).

Next door buildings: The Ornstein Laboratorium is interconnected with the Buys Ballot building at 30 meters distance via a corridor with an unknown construction that is 60 minutes fire retardant separated at the Buys Ballot side. The above mentioned ESRON building is located at 19 meters and interconnected by a single floor overhead corridor that is provided with a single fire retardant partition at the Ornstein side (see rec for improvement during the renovation of ESRON).



Overview of the Ornstein Laboratory (middle right building: The two arrows indicated the single floor bridges to adjacent buildings (below Buys Ballot, left another laboratory (ESRON) building that will be renovated soon)

Overall an acceptable risk but the cooking device has to be removed.



Overview of the various floors (fire detection)



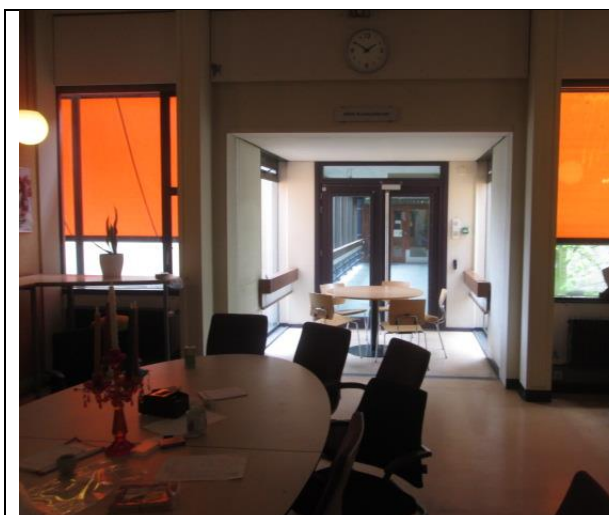
Ventilation systems of the fume hoods



Connection bridge to Buys Ballot bld



Connection bridge to Buys Ballot bld



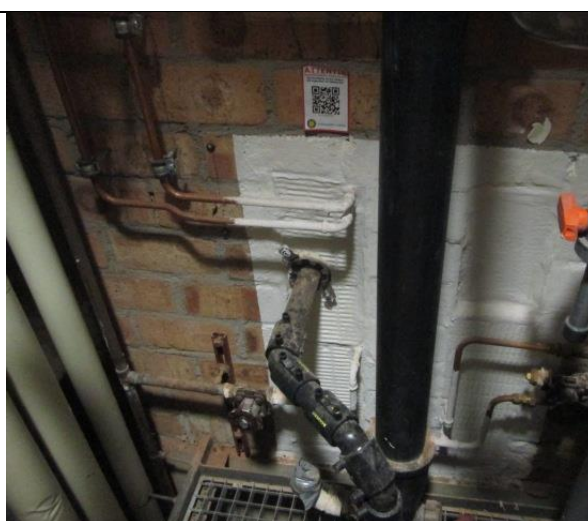
Connection bridge to ESRON bld



Esrn bld left, Ornstein right



Cooking device next to combustible cushions



Cable and pipe penetrations adequately sealed



One of the laboratories in the basement



Connection bridge to Buys Ballot bld

AANBEVELINGEN:

2024-01 Watersloten

Koffie-automaten zijn op de waterleiding aangesloten via een kunststof slangetje. Watersloten zijn niet geïnstalleerd. Na verloop van tijd kan de slang open barsten en kan water onbeperkt uitstromen en voor een grote waterschade zorgen. Om een dergelijke schade te voorkomen worden watersloten aanbevolen waarbij getoetst moet worden of het waterslot na een slangbreuk van de toegepaste (dunne) slang ook daadwerkelijk dicht gaat. Indien dit niet het geval is dient een ander type slang gebruikt te worden.

2024-02 Zelfinspectie

De zelfinspectie zou geïntensiveerd kunnen worden om mogelijke schadeoorzaken zelf te identificeren. Tijdens het bezoek zijn onder andere geconstateerd dat:

De TL-verlichting op de bovenste verdieping bevat op diverse plaatsen oude TL-balken had die niet meer aan gaan. De verlichting gaat op termijn vervangen worden maar de starters van deze verlichting trekken veel stroom en kunnen zodanig warm worden dat er brand kan ontstaan. De lampen dienen uit de armatuur verwijderd te worden om brand te voorkomen (bovendien bespaart dit energie).



Water op dak van verbindingsbrug naar Buys Ballot. Het lijkt erop dat de afvoer geblokkeerd is waardoor waterschade kan ontstaan. De afvoer dient hersteld te worden om waterschade te voorkomen.



Kooktoestel. Op de eerste verdieping is een elektrisch kooktoestel aangetroffen naast kussens. De kussens van schuimkunststof kunnen ontstoken worden waardoor een zeer moeilijk te beheersen brand ontstaat. Het kooktoestel mag alleen in een keuken gebruikt worden vrij van brandbare materialen.



Aanbevolen wordt bovengenoemde punten direct op te lossen en vervolgens een zelfinspectieprocedure in te voeren of te intensiveren.

2024-03 Verbindingsgang naar ESRON

Het ESRON gebouw gaat binnenkort gerenoveerd/verbouwd worden. Tijdens deze periode is het risico van brand duidelijk verhoogd. Om het Ornstein Laboratorium te beschermen dient de verbindingsgang aan de zijde van het ESRON gebouw 60 minuten brandwerende afgescheiden te worden. Bovendien is het raadzaam ook in de toekomst de verbindingsgang tussen beide gebouwen aan beide zijden te voorzien van 60 minuten brandwerende scheidingen.