

Access Roads in Project Insurance

IMIA Working Group paper WGP 87 (14)

September 22, 2014

IMIA Conference Cannes-Mandelieu, France



Working Group Members



Chairman: Matia Cazzaniga, Zürich Insurance Company

Contributors: Andrea Belli, Swiss Re International

Armin Mayer, Allianz

Javier Rodríguez Gómez, AMIS Mexico

Karl Christian Hertenberger, HDI-Gerling

Mahmood Ahmed, Hamid Mukhtar & Co.

Richard Gordon, Infrassure

Sven Neumann, HDI-Gerling

Wolfram Pazur, Allianz

EC Sponsor: Volkan Babür, Mapfre

Outline of Presentation



- 1. Introduction/Purpose
- 2. Definition of Access Roads
- 3. Technical Features & Challenges
- 4. Basics of Risk Assessment & Risk Management
- 5. Claims & Lessons-learned Cases
- 6. Coverage & Insurance Clause(s) Proposition
- 7. Q&A Discussion



- Promote understanding and best practice in engineering insurance
- Raise awareness of technical features
- Provide contractors, brokers and underwriters with a basic guidance on necessary information to be contained in the underwriting submission
- Analyze insurance coverage extent for access roads and suggest specific clause(s) proposition
- Ultimately align insurance stakeholders interests to ensure commonly understood and acceptable solutions



Key considerations and queries from an insurance perspective:

- How should access roads be insured as part of a construction project?
- How can insurers identify temporary works necessary to project development?
- How can insurers properly assess exposure with limited information?
- Which limitations should be introduced for temporary works with design criteria below normal standards for permanent works?
- Are there quality assurance and risk management measures available to mitigate exposure and/or assist in loss mitigation?
- Which adjustments to pricing models should be considered to counter access roads minor construction costs against aboveaverage exposure?











Linthal 2015 Project AXPO Limmernsee, Glarus (CH)







Too impervious to reach with traditional access road solutions (sizeable to allow construction material delivery and heavy equipment traffic)...







Heavy duty cable lift system designed for purpose to serve as an aerial access road

Definition of Access Roads



Access roads (public or private) are **temporary or permanent** facilities affording access **into and through** a particular area, where accessibility is impaired or unmanageable using existing infrastructures

Access roads are generally required for transporting **construction materials and oversize loads** to a construction site with no direct access from road networks – where roads either do **not exist** at all or are **not fit for purpose**

- > From where to where?
- > Which are contractual & insurance boundaries (responsibilities)?

Ask and negotiate for a clear classification!

Technical Features & Challenges



Raise awareness of technical features... minor details which make

the difference!

- Design and Planning
- Road grade
- Road finish
- Road drainage
- Culverts
- ...









Technical Features & Challenges



Raise awareness of technical features... minor details which make

the difference!

- ...
- Watercourse crossing
- Cuts and embankments
- Maintenance and inspections







Inherent causes of exposure:

- Design and materials
- Geology related issues
- Natural events

• ...



Isn't this "normal" roads exposure???

Construction and management of access roads can be crucial item for a smooth timely and successful completion of a project

This have implications from an insurance perspective but access roads **exposure** is **often underestimated** and only little information is normally provided to underwriters



- Basic underwriting check list
- Onsite risk engineering surveys check list (risk management recommendations)

		IMIA – WGP 87 (4)			IMIA – WGP 87 (14
Appen	dix II – Risk Management Check List/Questio	nnaire	e)	ls	Are soil tests/advices obtained before final design? s the surface treatment (sealing) adequately designed to avoid prosion?	□ Yes □ No
1. ACCESS	S ROAD SPECIFIC RISK INFORMATION		f)			2 les 2 llo
a) Na	ame of Risk Insured and geographical location		17	C	Does the design include return period calculations and is the contractor aware of its implications on policy liability in case imitation/warranties?	□ Yes □ No
b) Na	ame of (sub)contractor and designer for Access Roads (if any)					
c) Pri	oject completion date and status on date of inspection		3 816	NSK M	MANAGEMENT DURING CONSTRUCTION, MAINTENANCE AND OPE	RATION
d) Lo	ocation exposures to Access Roads (e.g. plain, mountainous, platea	u, swamp)			Orainage and soil erosion	
e) Nu	umber/extension [km] of Access Roads part of the main project		a)		s there an inspection regime/SOP being followed during use of the	
	ccess Roads Sum Insured and % component refto Project lump Sur	n Insured		te	emporary road as per contract specifications for the purpose of crosion control?	□ Yes □ No
					are culverts and fill deposited within flood plain areas removed when no longer required?	□ Yes □ No
2. PROJEC	CT PLANNING & DESIGN			le.	s accumulated sediment and other debris removed and disposed	
a) Is	the access road being built on/or part of any route of permanent	□ Permanent			s accumulated sedimentand other debits removed and disposed of properly?	□ Yes □ No
tra	ansport corridor OR is temporarily provided for the construction	□ Temporary		١٠	n property:	Lifes Lino
pe	eriod?	2 remporary		If	frolling dip(s) is used, is a proper structure provided to receive the	
					low and control erosion at the outlet of the rolling dip?	□ Yes □ No
b) Ty	pe of access road cross sections:	□ Underpasses		- "		
		☐ Ground Level		0	On the basis of above, rate drainage facilities as:	☐ Satisfactory
		□ Overpasses				□ Need review
						□ Heed leview
c) An	re main civil works necessary for Access Roads construction:	□ Bridges	b)		Operation and maintenance	
		☐ Retaining walls			Are loads restricted to designed loads of culverts, berm or	
		□ Tunnels		te	emporary support? Are sufficient signs in place?	□ Yes □ No
		□ Others		L		
		_ caleis			Ouring road construction, are the following practices being neorporated:	
d) Dr	rainage & Erosion protection				ncorporated: - Does the construction SOPs include the instruction that, where	
	re there any drainage control issues envisaged due to:				necessary, swampy or unstable ground should be reinforced	
	Centre of valley, long sustained grades may create water				with synthetic earth reinforcement mesh to allow construction	
	removal issues:	□ Yes □ No			of the track to progress and to reduce the risk of bogging heavy	□ Yes □ No
-	Steep gradient which may lead to excessive erosion of the				equipment (becoming stuck)?	LI TES LINO
	surface:	□ Yes □ No		-	 Is Grubbing (digging) in fine-grained soil avoided during wet weather as a practice? 	□ Yes □ No
Is	the road sloping towards good drainage?	□ Yes □ No		-	What maintenance is planned? Will it be done during silent hours?	□ Yes □ No
Fo	or the purpose of erosion protection, does the design provide for:					
-	Undulating path way to allow water to leave the road at		c)) S	Safety measures	
	regular intervals	□ Yes □ No		Is	s there a proper ERP in place in case of a chemical or hazardous	
	Minimize water course crossings Rolling dips, water bars, aggregate, water for dust control,	□ Yes □ No			iquid or material spillage for all kinds of hazardous materials to be ransported during the construction activity?	□ Yes □ No
	culverts etc.	□ Yes □ No		L		
				A	Are the embankments on a major crossing protected with suitable	
1				1 -1	butments e.g. concrete, timber, logs or rocks?	□ Yes □ No



Everybody knows that a **quiet picturesque mountain stream** can change into a devastating mud-wave when swollen with ice water....







... but who is really prepared to **take expensive precautions** or **costly alternative routes** for a (temporary) access roads?



Claims & Lessons-learned Cases



There is plenty of claims examples in the Engineering Lines insurance literature and **flood** is one of the most common and evident causes but **landslides** exposure is also remarkable





Claims & Lessons-learned Cases



Access roads to a wind farm project

- Mountainous area
- Oversize loads
- Temporary access roads constructed and minor rural roads adapted
- Dry stone walls demolished but immediately restored in the original condition
- Full cost to demolish and re-build these walls were part of the project



Claims & Lessons-learned Cases



Access roads to a wind farm project

- During testing phase a blade got irremediably damaged and had to be replaced
- Oversize transport necessary to remove the damaged blade and replace it with a new one
- All the dry stone walls had already been rebuilt to restore original conditions => it was necessary to demolish them again

The contractor had to restore all temporary access facilities **doubling the initial budget** for access roads interventions and counting for a relevant part in the overall cost of the blade failure (loss)



Contract Certainty

'Contract Certainty is achieved by the complete and final agreement of all the terms between the insured and insurer by the time that they enter into the contract, with contract documentation provided promptly thereafter'

Reference: Chartered Insurance Institute - Insurance Law P05 Study text

Step 1 – Access Roads Classification

- Access roads
- Temporary access roads (TAR's)
- TAR's becoming permanent roads
- Existing roads / streets and highways



Step 2 – Access Roads Coverage

- Access roads (permanent) are fully insurable under CAR Property Damage – Section I as they are part of the project and of the operational property upon termination
- TAR's (irrespective of their characteristics) have an insurable value/interest for stakeholders only while they are under construction
- The existing streets / roads (not a part of the insured project) cannot be insured under the CAR policy for the project, except the liability arising out of damage to these existing properties due to the project activities
- Delay in Start Up (DSU) Section III and Contingent Business Interruption (CBI) extension must be separately considered (if any)



Access roads coverage review has anyway shown **two points of view on cover for TAR's**:

- One agrees with the cover for loss/damage to TAR only while they are under construction (CAR basis), and
- The other is in favor of cover all roads/streets being a part of the project (including TAR) during the project duration, without making any differentiation between access and other kind of roads/streets (CECR basis)

As a consequence the WGP proposition is **NOT** for **one clause** but for **two clauses to address separate coverage scopes** which are both adequate but involve different exposures



A – Limited cover of TAR's (during construction only)

Insurable interest of "temporary works" (short-term nature) which can be covered during construction only (on CAR basis) e.g. while this interest exists without doubt or confusion

Cover for TARs would be granted only:

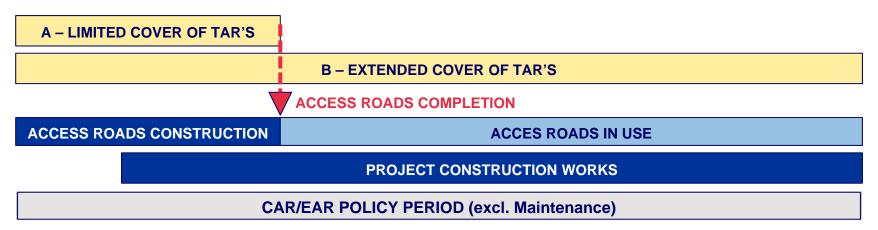
- While they are under construction
- If they are conceived as temporary
- If their construction is detailed and registered in the project log
- As long as they are not in use
- If they and their value can be identified and quantified in the BOQ of the insured project
- If their length, path and value have been declared separately to the insurance



B – Extended cover of TAR's (construction and operation)

Insurable interest of "temporary or permanent works" built as part of the project which **remains covered after their completion** for the entire policy period

After their completion TAR's are basically excluded from the basic coverage of CAR/EAR policy and the wording shall be adjusted to provide operational cover (CECR basis)



Maintenance costs are anyway excluded from both the coverage!

Access Roads in Project Insurance



