Johannesburg Stock Exchange

Equity Market Trading and Information Solution

JSE SENS Real Time Overview
Guidance Note

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1   DOCUMENT CONTROL

1.1   Table of Contents

1.2   Document Information

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1.3   Revision History

Date	Version	Sections	Description
30 Dec 2011	1.00		Initial Draft
25 Jan 2012	1.01		Reworded document to ensure clarity
17 May 2012	1.02	1.4	Update reference to document.
		5.2	Update URLLink entry on table with additional information on how to download files.
		6.1	Added note on optionality of TIDM codes for certain instrument types; added further details on how to download PDF files from JSE FTP site.
		6.2	Update information on supplementary files required to process the NewsML.
18 Jan 2019	1.02	6 NewsML Message	Remote Content
23 Jun 2020	1.03	All	Document review and minor corrections
14 Dec 2020	1.04	All	Updates to include the scheduled Industry Classification Benchmark (ICB) structure changes that come into effect in production on 23 March 2021. The **ICB Sub-Sector** field will increase in length from 4 characters to 8 Characters.

1.4   References

JSE SENS Real Time NewsML Specification

1.5   Contact Details

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2 OVERVIEW

This document has been drafted as a guidance note for JSE and NSX users writing solutions to receive and process the JSE SENS real time messages.

The JSE receives news announcements from the JSE SENS/NENS systems and disseminates these via 2 different Financial Information eXchange (FIX) FAST Regulatory News Gateway channels for the JSE and NSX markets.

The news feed is a multicast service based on the technology and industry standards UDP, IPv4, FAST and FIX. The application messages are defined using the FIX 5.0 (Service Pack 2) standard and comply with the best practices outlined by the FIX Market Data Working Group. The data feed is transmitted in the FAST v1.1 encoding method to minimize bandwidth and reduce latency and conforms to Level 1 of the FAST 1.1 specification.

The FIX News messages published via the real-time service include the news announcement details embedded within a field of the message in News Markup Language (NewsML) format.

The following is included in the scope of this document:

- New functionality included in new JSE SENS/NENS service at a high level;
- Categories of announcements;
- An overview of the relationship between the FIX News Message and NewsML; and
- Data contained in the FIX News Message and NewsML.

The following is *not* included in the scope of this document:

In-depth coverage of the FIX message protocol. FIX is the messaging standard developed specifically for the real-time electronic exchange of securities transactions. Please refer to the FIX Protocol documentation available from www.fixprotocol.org as well as the *JSE Volume 8 – Regulatory News Feed (FAST – UDP)* documents for further details.

In-depth coverage of the NewsML news message standard. NewsML is a media-type-independent, structural framework for multi-media news exchanges. Please refer to the documentation provided by IPTC (www.iptc.org) as well as the JSE SENS Real Time NewsML Specification documents for further details.

3   KEY CHANGES TO JSE SENS/NENS

The following are the key changes to the JSE SENS real time service:

1) The JSE InfoWiz 5NC/5NT messages will be replaced by the FIX News Message (Message Type = 'B') as part of the migration to the new Equity Trading and Information solution. The News messages will be broadcast as a multicast service based on the technology and industry standards UDP, IPv4, FAST and FIX.

2) NewsML (News Markup Language) is used as the announcement format. The NewsML is embedded within the *EncodedText(355)* field of the FIX News Message. The NewsML contains the actual text of the announcement as well as additional metadata for the announcement.

3) The character encoding of the plain-text of the announcement is converted from ASCII to Windows-1252 to allow for enhanced character support (Note: UTF-8/16/32 is not supported).

4) The width of the plain-text is no longer fixed to 80 bytes. Display systems will need to cater for right hand side scrolling to allow announcements wider than 80-bytes to display correctly.

5) A PDF version for each announcement (which may contain graphics and images) will be published on the JSE website for download by authorized clients subscribing to the web service. The web link to the PDF is enabled once the FIX News Message is successfully disseminated;

6) Announcements can have up to 5 companies related to the announcement (5 for JSE and 5 for NSX);

7) A company can have one or more of its listed instruments linked to the announcement; there is no restriction in terms of how many instruments can be linked to the announcement;

8) A new feature is that an announcement can have corrections applied to it. The type of correction will indicate either a cancellation or replacement of the original announcement. Corrections can be sent for announcements disseminated anytime in the past;

9) Release Types (e.g. Formal or Press Release) have been introduced to improve announcement categorisation. This metadata is only available from the NewsML;

10) Announcement type/subtypes (e.g. Merger, Dividend, Financial Results, etc.) have been introduced to improve announcement categorisation. This metadata is only available from the NewsML.

The next sections detail how the above changes manifest in terms of layout and population of the fields in the FIX News messages including the embedded NewsML.

4 CATEGORY OF ANNOUNCEMENTS

This section describes the various categories of announcements and their impact on the News message.

4.1 Dual-listed vs. Single-listed Announcements

In SENS/NENS, a dual-listed announcement applies to companies which are listed on both the JSE and NSX. For JSE/NSX dual-listed announcements, the same News message will be published via both the JSE and NSX Regulatory News feeds. The News message will contain only those companies and instruments associated with the respective Exchange. Each announcement is further categorised as per Section 6.2 and Section 6.3.

4.2 Company Announcements vs. General Announcements

When an announcement is made by a company which is authorised to list instruments (i.e. it has a role of Equity Issuer, Warrant Issuer, etc.) it is considered a Company Announcement. If the announcement is made by a company or organisation with a role other than an Issuer Role then it is considered a General Announcement.

If an Issuer has listed instruments and is submitting the announcement under its Issuer Role then it must select at least one instrument to be linked to the announcement. Note that a Company Announcement can be made by an Issuer that does not have any listed instruments on the Exchange.

A General announcement will have no linked instruments to the announcement.

The embedded NewsML metadata for companies and instruments will reflect whether any instruments are linked to the announcement or not.

4.3 Regulatory vs. Non-Regulatory Announcements

4.3.1 Non-Regulatory Announcements

When a company announcement is issued, it can pertain to one or more companies. The first company entered by the submitter is known as the *primary company* (or *issuer*); if there are other companies, they are known as *related companies* (or *issuers*).

If the primary company has listed a share(s) the announcement is considered *non-regulatory*; this applies even if one or more related companies (if applicable) do not list any shares.

For non-regulatory announcements, the *MarketSegmentID* in the FIX News Message is blank and the *AnnouncementGroupCode* in the embedded NewsML message is excluded from the NewsML.

The *NewsCategory (1473)* field in the FIX News Message will contain a value of *102 (non-regulatory)*. The *AnnouncementRegulatoryCode* in the embedded NewsML will contain the value *'N' (non-regulatory)*.

The company and instrument information will be populated for all the companies and instruments linked to the announcement.

Further details of the FIX and NewsML message layouts in described in Sections 5 and 6.

4.3.2 Regulatory Announcements

Regulatory announcements do not have listed instruments linked to the announcement. The following are the sub-categories of Regulatory Announcements:

4.3.2.1 Exchange Announcements

Exchange announcements are announcements issued by the JSE and/or NSX under its 'General' role. No instruments are linked to the announcement. Related companies are not allowed under Exchange Announcements.

Note: if the JSE issues an announcement related to its listed JSE shares, it would do so under its Equity Issuer role and therefore the announcement would not be considered an Exchange Announcement (regulatory) but a normal Company Announcement (non-regulatory).

4.3.2.2 Regulatory Institution Announcements

Announcements issued by Regulatory Institutions (e.g. Financial Services Board (FSB), Company Commission (CCO) and Takeover Regulation Panel (TRP)) may relate to a particular Issuer Company but generally apply to the market as a whole. No instruments are linked to these announcements. Related companies are not allowed for announcements issued by Regulatory Institutions.

4.3.2.3 Company Announcements (Issuer without listed instruments)

When a company announcement is issued, it can pertain to one or more companies. The first company entered by the submitter is known as the *primary company* (or *issuer*); if there are other companies, they are known as *related companies* (or *issuers*). If the primary company of the announcement does not list any shares (there are no instruments to select from), then the announcement is deemed *regulatory*. If the announcement has other companies and they have listed instruments, the announcement is still *regulatory* as the categorisation applies to the Primary Company.

The type of regulatory announcement is identified by the fields *MarketSegmentID (1300)* (FIX message) and the *AnnouncementGroupCode* (in embedded NewsML message). These fields can have the following values:

Table 1 – Announcement Group Codes

MarketSegment ID / Announcement GroupCode	Announcement Category	Description
CCO	Regulatory Institution	Competition Commission
CTR	Regulatory Institution	Competition Tribunal
TRP	Regulatory Institution	Takeover Regulation Panel
FSB	Regulatory Institution	Financial Services Board
EXCH	Exchange Announcement (JSE & NSX)	Exchange
JSEO	JSE Primary Company (without instruments)	Other JSE
NSXO	NSX Primary Company (without instruments)	Other NSX

The *NewsCategory (1473)* field in the FIX News Message will have a value of *101 (regulatory)*. The *AnnouncementRegulatoryCode* in the embedded NewsML message will have the value *'R' (regulatory)*.

The company or organisation (Regulatory Institution, Exchange or Company) information will be populated for all companies. The instrument information will not be populated as it does not apply to regulatory announcements.

5   FIX NEWS MESSAGE

5.1   Overview

The SENS and NENS news messages are disseminated intraday using FIX/FAST via two UDP Regulatory News Gateways for the JSE and NSX respectively. The news messages are sent using the FIX News message (Message Type = 'B'). The news text will be embedded in the *EncodedText (355)* field of the Fix News message in NewsML format.

NB: The FIX message provides key information related to the announcement, however the EncodedText field within the FIX message contains the embedded NewsML which provides full details of the announcement. Please see Section 6 for the mapping between the NewsML and FIX News Messages.

5.2   FIX News Message

The FIX News Message layout is described in the following table:

Table 2 – SENS/NENS FIX News Message (35='B') Layout

Tag	Field Name	Req	Description
35	MsgType	Y	B = News
52	SendingTime	Y	Time the message was transmitted specified in UTC and in the YYYYMMDD-HH:MM:SS.sss format.
1180	ApplID	Y	Identifier of the Server sending the message.
1181	ApplSeqNum	N	Sequence number of the message on the Real-Time channel. Required if the message is disseminated via the Real-Time or Replay channel.
912	LastRptRequested	N	Indicates the last message sent in response to a retransmission request. **Value Meaning** Y Last Message
1472	NewsID	Y	Unique Identifier of the News/Announcement. This field uniquely identifies an announcement. The format of this field is YYYYMMDDNNNNA, where YYYYMMDD = current date, NNNN = 0001 - 9999 and A is any alphanumeric character. **The SENS System will populate this field for all Announcement Types:** e.g. 201105220004A The Date is current date. The numeric value will increment first, and then the alpha character will increment (i.e. the first announcement will be 201105220001A, the second 201105220002A etc. The 10000th message will be 201105220001B). Please note that the latter part of the number (excluding the date) will be reset each day.

Tag	Field Name	Req	Description
			Therefore each day the first announcement number will be displayed as 0001A. If the announcement is a dual listed announcement, i.e. applicable to both the JSE and NSX, then the Announcement Number will be the same for both of the JSE and NSX feeds..
1473	NewsCategory	N	**Value Meaning** 101 Regulatory 102 Non-Regulatory If available for the NewsID, the field will be required when NewsSequence =1.
42	OrigTime	N	Time the announcement was published which will be specified in South African Standard Time (SAST) and in the HH:MM:SS format. Required when the NewsSequence = 1.
358	EncodedHeadlineLen	Y	Required if the EncodedHeadline (359) is specified. The SENS/NENS headlines are limited to a maximum of 150 characters.
359	EncodedHeadline	Y	Encoded Headline or subject of the announcement. The headline is encoded in the Windows-1252 character set. The field length for this field is specified in the EncodedHeadline (358). All SENS/NENS announcements have a headline.
1688	NewsSequence	Y	The unique sequence number of the News message under a NewsID.
1689	NewsCounter	Y	The number of news messages spanning across multiple packets sharing the same NewsID.
1300	MarketSegmentID	N	Announcement Group Code If available for the NewsID, the field will be required when NewsSequence =1. This field is populated for Exchange or Regulatory Institution announcements or when the Primary Company has no listed instruments. Refer to Table 1 in section 4.3.2.3 above for valid values. **How the SENS System will populate the message for Company Announcements (Primary company has a share):** e.g. This field will not be populated, and will be filled with spaces.

Tag	Field Name		Req	Description
				How the SENS System will populate the message for Company Announcements (Primary company has NO share): e.g. JSEO or NSXO This field will be populated with the JSEO announcement group code if it is a JSE company or NSXO for a NSX company. **How the SENS System will populate the message for Exchange Announcements:** e.g. EXCH This field will be populated with the EXCH announcement group code. **How the SENS System will populate the message for a Regulatory Institution Announcements:** e.g. CCO This field will be populated with the related Regulatory Institutions announcement group code.
61	Urgency		N	Level of urgency of the announcement. | Value	Meaning	 |---|---| | 0	Normal	 | 1	Flash (High Priority)	
149	URLLink		N	Provides a URL for the PDF version of the news announcement hosted on the JSE Information Delivery Portal (IDP) (FTP Site) and SENSPDF for the long financials on the external JSE PDF site. **Note: Please refer to the IDP Connectivity Document for additional details on how to connect to the JSE IDP Service.**
1475	NoNewsRefIDs		N	Always set to '1'. If available for the NewsID, the field will be required when NewsSequence =1.
➡	1476	NewsRefID	N	The News ID of the News which needs to get corrected. **How the SENS System will populate the message for all Announcement Types:** This field will be populated with the NewsID of the announcement being replaced. i.e NewsID format YYYYMMDDNNNNA of the original announcement published. The announcement correction can be done on announcements from previous days or the current day. A replacement announcement always follows a cancellation announcement.
➡	1477	NewsRefType	N	Type of correction made to News.

Tag	Field Name		Req	Description
				Value **Meaning**
				0 Replacement
				100 Cancellation
33	NoLinesOfText		Y	Number of NewsML blocks available for the announcement.
➡	354	EncodedTextLen	N	Byte length of EncodedTextLen (355)
➡	355	EncodedText	N	Text of the News message in NewsML
146	NoRelatedSym		N	Number of related Instruments. Can be any value depending on the number of instruments. The first record in the repeating block will be that of the primary instrument of the announcement. If available for the NewsID, the field will be required when NewsSequence =1.
➡	207	SecurityExchange	N	The Market identifier to which the news applies **How the SENS System will populate the message for Company Announcements (Primary company has a Share):** e.g.: XJSE This field will contain the market identifier for the security. XJSE is used to indicate JSE, and XNAM is used to indicate NSX using MIC codes. **How the SENS System will populate the message for Company Announcements (Primary company has no share):** e.g.: This field will not be populated, and will be filled with spaces. **How the SENS System will populate the message for Exchange Announcements:** e.g. This field will not be populated and will be filled with spaces. **How the SENS System will populate the message for Regulatory Institution Announcements:** e.g. This field will not be populated and will be filled with spaces.
➡	470	CountryOfIssue	N	Place of company listing This specifies the Country of Register for a specific tradable instrument. A list of all codes is contained in ISO 3166 - Codes for the representation of names of countries.

Tag	Field Name	Req	Description
			How the SENS System will populate the message for Company Announcements (Primary company has a Share): e.g. ZA This field will contain the country of register for the security. ZA is used to indicate South Africa, and NA is used to indicate Namibia. **How the SENS System will populate the message for Company Announcements (Primary company has no Share):** e.g. This field will not be populated, and will be filled with spaces. **How the SENS System will populate the message for Exchange Announcements:** e.g. This field will not be populated and will be filled with spaces. **How the SENS System will populate the message for Regulatory Institution Announcements:** `e.g.` This field will not be populated and will be filled with spaces.
➡	48	SecurityID	N	ISIN of the instrument (if applicable) Together with the Country of Issue, the code used to uniquely identify a tradable instrument. This will be the International Security Identification Number (ISIN). **How the SENS System will populate the message for Company Announcements (Primary company has Shares):** e.g. ZAE000081949 This field will be populated with the ISIN code of the security. **How the SENS System will populate the message for Company Announcements (Primary company has no Share):** e.g. This field will not be populated, and will be filled with spaces. **How the SENS System will populate the message for Exchange Announcements:** e.g. This field will not be populated and will be filled with spaces. **How the SENS System will populate the message for Regulatory Institution Announcements:** e.g.

Tag			Field Name		Req	Description
						This field will not be populated and will be filled with spaces.
➡	22		SecurityIDSource		N	Required if SecurityID (48) is specified. **Value** **Meaning** 8 instrument identifier
➡	454		NoSecurityAltID		N	If present, value in this field will always be "1".
➡	➡	455		Security AltID	N	Alternative Identification number for the security. The Tradable Instrument Display Mnemonic (TIDM) is allocated by the Exchange and used to identify a tradable instrument. **How the SENS System will populate the message for Company Announcements (Primary company has a Share):** e.g. 1004 This field will be populated with the TIDM for the security. **How the SENS System will populate the message for Company Announcements (Primary company has no Share):** e.g. This field will not be populated and will be filled with spaces. **How the SENS System will populate the message for Exchange Announcements:** e.g. This field will not be populated and will be filled with spaces. **How the SENS System will populate the message for Regulatory Institution Announcements:** e.g. This field will not be populated and will be filled with spaces.
➡	➡	456		SecurityAlt IDSource	N	Type of security identification number used. Required if SecurityAltID (455) is specified. **Value** **Meaning** 8 TIDM
➡	6940		NewsSource		N	The related issuer/company description. This will be the Long Name of the company that issued the instrument. Required if NoRelatedSym (146) is specified. Can be any value depending on the number of issuers. The first ever record in the repeating block will be of the primary issuer/company the announcement is related to.

Tag	Field Name		Req	Description
				How the SENS System will populate the message for Company Announcements (Primary company has a Share): e.g. Angloplat This field will be populated with the primary issuer (company) long name as held in the JSE Reference data. **How the SENS System will populate the message for Company Announcements (Primary company has no Share):** e.g. Angloplat This field will be populated with the primary issuer (company) long name as held in the JSE Reference data. **How the SENS System will populate the message for Exchange Announcements:** e.g. JSE Ltd In the case where the announcement is for the exchange, this field will either be populated with "*JSE Ltd" or with "Namibian Stock Exchange*". **How the SENS System will populate the message for Regulatory Institution Announcements:** e.g. Financial Services Board In the case where the announcement is for a Regulatory Institution, this field will be populated with the Regulatory Institutions name.

6 NEWSML MESSAGE

6.1 Overview

NewsML is an XML-based envelope for news items (such as plain-text or PDF articles); it contains metadata to describe the news information. The NewsML produced by JSE SENS/NENS is embedded in the *EncodedText* field of the FIX News Message for real time news dissemination.

A subset NewsML-G2 version 2.9 is used for SENS/NENS news. This subset is referred to as *JSE NewsML* and is described in detail in the "*JSE NewsML Specification 1.0*" (see references section).

Please refer to the official documentation on the NewsML standard such as the *IPTC-G2-Implementation_Guide_4* and *NewsML-G2-2.9-PCL-1* specification (see references section) for additional information on the overall standard. The NewsML standard is maintained by the International Press and Telecommunications Council (IPTC – www.iptc.org).

The NewsML embedded in the *EncodedText* field must be parsed to extract the announcement text and other metadata such as Announcement Types/Subtypes.

Table 2 – JSE NewsML Layout (Intraday NewsItem)

Field Name	Description	Fixed Value	Matching FIX Field	FIX Tag No
itemMeta	NewsML section which contains information about the news message.			
itemClass	An indicator of the class of news message, e.g. Text or Composite. A constant value 'composite' is used for intraday news messages, **e.g.: composite**	**Y**	None	None
provider	The provider of the news item message. A constant value of "JSE Limited" is used, **e.g.: JSE Limited**	**Y**	None	None
versionCreated	The time the NewsML message was created in UTC, is used **e.g.: 2011-12-09T10:31:25.000Z** *Note: All timestamps in NewsML use the format: CCYY-MM-DDTHH:MM:SS.sssZ*	N	None	None
firstCreated	The time the NewsML message was first created in UTC, **e.g.: 2011-12-09T10:31:25.000Z**	N	None	None
embargoed	The release datetime of the news message in UTC, **e.g.: 2011-12-09T10:31:00.000Z** *Note: The equivalent timestamp in FIX (OrigTime) is in SAST and not UTC.*	N	**OrigTime**	**42**
pubStatus	The publication status, **e.g. usable or canceled** (note U.S. spelling)	N	None	None
fileName	The filename of the NewsML message, **e.g.: SENS_20111209_S3_ITNI.XM**	N	None	None
generator	The *version* and *name* of the software used to generate the NewsML message.			

Field Name			Description	Fixed Value	Matching FIX Field	FIX Tag No
		versioninfo	Version number of the software or assembly, **e.g. 1.0.0.0**	N	None	None
➤		*(Name)*	The name of the software or assembly, **e.g.: JSE.IS.Sens.NewsML**	N	None	None
	service		The news service, **e.g.: SENS or NENS**	N	**ApplID**	**1180**
	signal qcode="CorTyp:value"		Present for Cancellation or Replacement correction announcements, **e.g. Cncl or Repl** *Note: The FIX and NewsML value match as follows:* *FIX (0)　 = NewsML (Cncl)　- Cancellation* *FIX (100) = NewsML (Repl)　- Replacement*	N	**NewsRef Type**	**1477**
	link		Only present for announcement corrections ('cancellations' or 'replacement').			
		contenttype	Indicates the content type of the announcement being 'cancelled' or 'replaced', **e.g.: application/vnd.iptc.g2.newsitem+xml**	**Y**	None	None
		rel	Indicates the relationship between the current announcement and the announcement being corrected. A constant 'previousVersion' value is used, **e.g.: irel:previousVersion**	**Y**	None	None
		residref	The GUID of the announcement being corrected, **e.g.: urn:newsml:jse.co.za:2011-12-09:SENS:S1:ITNI**	N	None	None
		altId (type=AltIdTyp:AnnNo)	The Announcement Number of the announcement being corrected, **e.g.: 201112090001A**	N	**NewsRefI D**	**1476**
		altId (type=AltIdTyp:AnnRefNo)	The Announcement Reference Number of the announcement being corrected, **e.g. S1**	N	None	None
contentMeta			NewsML section which provides information about the content of the announcement.			
	urgency		Indicates the urgency of the content. A value of 1 or 4 is used. A price sensitive announcement has an urgency of 1 whilst a non-price sensitive announcement has a value of 4, **e.g.: 1 or 4** *Note: The values between FIX and NewsML map as follows:* *FIX (0) = NewsML (1) and FIX (1) = NewsML (4).*	N	**Urgency**	**61**
	contentCreated		The time the announcement content was created in UTC, **e.g.: 2011-12-09T10:20:00.000Z**	N	None	None
	located		The location where the content was created. A constant value of 'Johannesburg' is used , **e.g.: Johannesburg**	**Y**	None	None

Field Name			Description	Fixed Value	Matching FIX Field	FIX Tag No
infoSource			The ID of the primary company of the announcement, **e.g.: 861**	N	None	None
creator			The ID of the primary company of the announcement, **e.g.: 861**	N	None	None
audience			The target audience for the product. A constant ITNI product code is used for intraday news messages, **e.g.: ITNI**	**Y**	None	None
altId type="AltIdTyp:AnnNo"			An alternative identifier to the news message using format *CCYYMMDDNNNNNA*. The ID is valid for all time and is never recycled, **e.g.: 201112090001A**	N	**NewsID**	**1472**
altId type="AltIdTyp:AnnRefNo"			An alternative identifier to the news message using format *S+numeric code.* The ID is valid for all time and is never recycled, **e.g.: S1**	N	None	None
language			The language tag for the content, e.g.: 'en' *English* is used by default unless locally overridden.	**Y**	None	None
genre			Indicates the type of release, e.g. Format, Press Release, etc, **e.g.: 110** *Note: Please use the SENS KnowledgeItem (See Section 6.2) to get the <u>name</u> and <u>definition</u> for the release type and other SENS-maintained controlled vocabularies.*	N	None	None
headline			The headline of the announcement. Limited to150 characters using windows-1252 character encoding, **e.g.: Anglo American audited year-end financial results for 2011.**	N	**Encoded Headline**	**359**
subject qcode= "AnnTyp:value"			The Announcement Type code. At least one announcement type will be selected per announcement. Announcement types have optional subtype(s). Multiple announcement types can be selected for the same announcement, **e.g.: 133** The *name* (in English) for the Announcement Type is also provided under the <name> element, **e.g.: Financial Results**	N	None	None
		narrower qcode= "AnnSubTyp:value"	An optional subtype to the Announcement Type. The *name* (in English) is also provided under the <name> element. Multiple Announcement Subtypes can be used for the same Announcement Type, **e.g.: 138**	N	None	None

Field Name	Description	Fixed Value	Matching FIX Field	FIX Tag No
subject qcode= "OrgId:value"/	The Customer Role ID of the company or companies (as per JSE master data) selected for the announcement. **How the SENS System will populate the message for Company Announcements (Primary company has a Share):** e.g.: 861 Each company associated with the announcement will have its own *subject* entry with company ID. **How the SENS System will populate the message for Company Announcements (Primary company has no share):** e.g.: 444 Each company associated with the announcement will have its own *subject* entry with company ID. **How the SENS System will populate the message for Exchange Announcements:** e.g. 2647 This field will be populated with the Exchange ID. **How the SENS System will populate the message for Regulatory Institution Announcements:** e.g. 350 This field will be populated with the ID of the Regulatory Institution.	N	None. (The ID for company in FIX is the "long name" of the company.	None

Field Name	Description	Fixed Value	Matching FIX Field	FIX Tag No
subject qcode= "InsNumCde:value"	The Instrument Numeric Code of the instrument (as per JSE master data) selected for the announcement. **How the SENS System will populate the message for Company Announcements (Primary company has a Share):** e.g.: 119 This field will be populated with the Instrument ID. If multiple instruments are selected, then separate *subject* entries will be used for each instrument. **How the SENS System will populate the message for Company Announcements (Primary company has no share):** *This XML element and and an <assert> with the same QCode will NOT be present.* **How the SENS System will populate the message for Exchange Announcements:** *This XML element and an <assert> with the same QCode will NOT be present.* **How the SENS System will populate the message for Regulatory Institution Announcements:** *This XML element and an <assert> with the same QCode will NOT be present.*	N	None. (The ID for company in FIX is the "long name" of the company.	None
sens:AnnouncementRegulatoryCode	Indicates whether the announcement is Regulatory ("R") or Non-regulatory ("N"). *Note: NewsML to FIX values mapping: NewsML ("R") = FIX (100) and "N" = 101.* **How the SENS System will populate the message for Company Announcements (Primary company has a share):** e.g. N **How the SENS System will populate the message for Company Announcements (Primary company has no share):** e.g. R **How the SENS System will populate the message for Exchange Announcements:** e.g. R **How the SENS System will populate the message for a Regulatory Institution Announcements:** e.g. R	N	**NewsCategory**	1473

Field Name	Description	Fixed Value	Matching FIX Field	FIX Tag No
sens:PriceSensitivityIndicator	Indicates if the announcement is price-sensitive, **e.g. Y or N**	N	None	None
sens:AnnouncementGroupCde	The rules for populating the Announcement Group Code (*MarketSegmentID* in FIX) as well as the codes used are the same for both messages, i.e.: **How the SENS System will populate the message for Company Announcements (Primary company has a share):** *The element will NOT be present in the NewsML.* **How the SENS System will populate the message for Company Announcements (Primary company has no share):** e.g. JSEO (JSE primary company) or NSXO (for NSX Primary Company). **How the SENS System will populate the message for Exchange Announcements:** e.g. EXCH (for both JSE and NSX) **How the SENS System will populate the message for a Regulatory Institution Announcements:** e.g. CCO	N	**MarketSegmentID**	**1300**

Field Name			Description	Fixed Value	Matching FIX Field	FIX Tag No
assert qcode= "OrgId:value"			The Company ID as maintained in JSE reference data system. **How the SENS System will populate the message for Company Announcements (Primary company has a Share):** e.g.: 861 This field will be populated with the Primary Company ID. **How the SENS System will populate the message for Company Announcements (Primary company has no share):** e.g.: 861 This field will be populated with the Primary Company ID. **How the SENS System will populate the message for Exchange Announcements:** e.g. 2647 This field will be populated with the Exchange ID. **How the SENS System will populate the message for Regulatory Institution Announcements:** e.g. 350 This field will be populated with the ID of the Regulatory Institution.	N	None	None
		related RelNat:hasRelSeq	Indicates the relationships sequence of the company. Primary company has value 1; the 1st Related company has value 2, etc, **e.g.: 1**	N	**NewsSource** The first entry in the field is the Primary Company.	**6940**
		related RelNat:hasRole	Provides the company role code. **How the SENS System will populate the message for Company Announcements (Primary company has a Share):** e.g.: ISSE This field will be populated with code for the company issuer role, e.g. Equity Issuer (ISSE). **How the SENS System will populate the message for Company Announcements (Primary company has no share):** e.g.: ISSE Any role except 'General'. **How the SENS System will populate the**	N	None	None

Field Name		Description	Fixed Value	Matching FIX Field	FIX Tag No
		message for Exchange Announcements: e.g. General When JSE or NSX make *Exchange* announcements their role must be 'General'. **How the SENS System will populate the message for Regulatory Institution Announcements:** e.g. General Regulatory Institutions have a 'General' role			
	related RelNat:hasRoleOn	Indicates the MIC code for the Exchange where the company has the role specified in "RelNat:hasRole", **e.g. XJSE**	N	None	None
	related RelNat:isRegisteredIn	Indicates the country of registration of the company, **e.g. GB, ZA**	N	None	None
	sameAs qcode="OrgAlphaCde:value"	The alpha code of the company, **e.g.: ANAAL**	N	None	None
	name role="nrol:short"	The short name of the company, **e.g.: ANGLO**	N	None	None
	name role="nrol:full"	The full/long name of the company, **e.g.: ANGLO AMERICAN PLC**	N	**NewsSource**	**6940**
assert qcode= "InsNumCde:value"		The Instrument Numeric Code as maintained in JSE master data system. **How the SENS System will populate the message for Company Announcements (Primary company has a Share):** e.g.: 119 This field will be populated with the Instrument ID. **How the SENS System will populate the message for Company Announcements (Primary company has no share):** *This XML element and its child elements below will NOT be present in NewsML message.* **How the SENS System will populate the message for Exchange Announcements:** *This XML element and its child elements below will NOT be present in NewsML message.* **How the SENS System will populate the message for Regulatory Institution Announcements:** *This XML element and its child elements below will NOT be present in NewsML message.*	N	None	None

Field Name		Description	Fixed Value	Matching FIX Field	FIX Tag No
	related rel="RelNat:hasRelSeq"	Indicates the relationships sequence of the instrument. Primary instrument has value 1. The 1st related instrument has a value of 2, etc, **e.g.: 1**	N	None	None
	related rel="RelNat:isIssuedBy	Provides the ID of the company that issued the instrument, **e.g.: 861**	N	**NewsSource**	**6940**
	related rel="RelNat:isIssuedIn"	Provides the country code where the instrument was issued in, **e.g. ZA, NA**	N	**CountryOfIssue**	**470**
	related rel="RelNat:hasListingType"	Indicates the type of listing, **e.g.: Primary or Secondary**	N	None	None
	related rel="RelNat:isListedOn" qcode="MIC:value"	The MIC code of the Exchange where the instrument is listed on, **e.g.: XNAM or XJSE**	N	**SecurityExchange**	**207**
	related rel="RelNat:isListedOn" qcode="MktTyp:value"	The Market Type (such as Equity Market) where the instrument is listed on, **e.g.: EM**	N	None	None
	related rel="RelNat:isListedOn" qcode="BrdTyp:value"	The Board type the instrument is listed on, **e.g.: Main**	N	None	None
	related rel="RelNat:hasSubSector"	The instrument's ICB subsector industry classifications such "Gold Mining", "Aerospace", etc., **e.g.: 1777** **NB: On 23 March 2021 the new FTSE ICB structure comes into effect and will be implemented into production. From this date, the ICB subsector field will increase from 4 characters to 8 characters.** **e.g "55103025"** **New ICB code** / **New ICB description** / **New ICB level** 55103025 / Gold Mining / Sub-Sector (4) The current to new ICB mapping can be found here: https://www.ftserussell.com/files/support-document/icb-structure-definitions	N	None	None
	sameAs qcode="isin:value"	The instrument's ISIN, **e.g.:GB00B1XZS820**	N	**SecurityID**	**48**

		Field Name	Description	Fixed Value	Matching FIX Field	FIX Tag No
		sameAs qcode="isin:value" validfrom="utcdatetime"	The instrument's future-dated ISIN, **e.g.:GB00B1XZS823** *Note: This is an optional entry - present only when instrument has a future-dated ISIN.*	N	None	None
		sameAs qcode="TIDM:value"	The instrument's TIDM, **e.g.: 100U** NB: This entry will not be used for instruments which do not have a TIDM (e.g. Debt Instruments)	N	**Security AltID**	**455**
		sameAs qcode="InsAlphaCde :value"	The instrument's alpha code, **e.g.: AGL**	N	None	None
		name role="nrol:short"	The instrument's short name, **e.g.: ANGLO**	N	None	None
		name role="nrol:full"	The instrument's full/long name, **e.g.: ANGLO AMERICAN PLC**	N	None	None
	contentSet		The NewsML section which contains the actual announcement text and link to PDF announcement hosted on JSE website.			
		remoteContent contenttype	The IANA/MIME application type code, **e.g.: application/pdf**	**Y**	None	None
		remoteContent size	The size of PDF Announcement in bytes, **e.g.: 8240207** *Note: The maximum PDF size is configurable in SENS/NENS and has a default value of 10MB. The PDF file size may exceed 10MB on exceptional cases.*	N	None	None
		remoteContent href	The partial URL where the PDF version of the announcement is hosted on the JSE IDP (FTP site), **e.g.: \Common\DDAP.SPRD.SENS.STORIES\SENS_20111209_S1.pdf** Note: Please refer to IDP Connectivity Document for additional details on how to connect the JSE Information Delivery Portal (IDP) (FTP Site) and SENSPDF for the long financials on the external JSE PDF site. For Financial Result Submissions A link to the PDF version of the detailed financial results document will be appended following a semi-colon. Note: Only once the FIX News Message has been successfully published, will the SENS system activate the web link for the published announcement and publish the SENS announcement on the external JSE SENSPDF site.	N	**URLLink**	**149**

Field Name		Description	Fixed Value	Matching FIX Field	FIX Tag No
	remoteContent residref	The provider's identifier of the target resource.	**N**	None	None
	inlineData contenttype	The type of inline content. **e.g.: text/plain**	**Y**	None	None
	inlineData contenttype	The type of inline content. **e.g.: text/plain**	**Y**	None	None
	inlineData xml:space	Indicates how white space in the *inlineData* element should be handled by the NewsML processor, **e.g.: preserve**	**Y**	None	None
	inlineData (value)	The actual windows-1252 character encoded plain-text announcement. The text size is limited to 4MB. *Note: The new SENS system does not have a fixed-width for the plain text and may exceed the current 80 bytes.*	N	None	None

6.2   NewsML supporting files

The following three JSE-issued XML files are required to process SENS/NENS NewsML messages:

1. JSE NewsML Catalog;
2. JSE NewsML Knowledge Item; and
3. JSE NewsML Extensions.

The JSE Catalog above provides a list of scheme alias and their respective URLs used in the NewsML messages.

The SENS Knowledge Item provides the definition of JSE defined elements used in the NewsML.

The NewsML Extensions schema file provides the specifications for SENS extensions to the NewsML schema.

The above files can be found under following addresses on the JSE website:

File	JSE Website URL
Catalog	https://clientportal.jse.co.za/technical-library/trading-and-market-data-documentation
Knowledge Item	https://clientportal.jse.co.za/technical-library/trading-and-market-data-documentation
Extensions	https://clientportal.jse.co.za/technical-library/trading-and-market-data-documentation

7   GLOSSARY OF TERMS

Term	Description
Catalog (NewsML)	The IPTC Catalog and JSE Catalog used in JSE NewsML lists all the Controlled Vocabularies (CVs) aliases and their URIs.
FAST	The *FAST protocol (FIX Adapted for STreaming)* is a technology standard developed by FIX Protocol Ltd., specifically aimed at optimising data representation on the network. It is used to support high-throughput, low latency data communications between financial institutions.
FIX	The *Financial Information eXchange (FIX)* protocol is an electronic communications protocol for international real-time exchange of information related to the securities transactions and markets.
Knowledge Item	A KnowledgeItem is a NewsML item used for collating a set of concept definitions to form the physical representation of a controlled vocabulary.
JSE	Johannesburg Stock Exchange.
MIC	Market Identifier code. This International Standard (ISO 10383) specifies a universal method of identifying exchanges, trading platforms and regulated or non-regulated markets as sources of prices and related information in order to facilitate automated processing.
NENS	Nambian Exchange News Service.
NewsItem	A News Item is a NewsML container used for journalistic content such as text, pictures, video, audio, etc.
NewsML	NewsML-G2 is an XML multimedia news exchange format standard of the IPTC, the International Press Telecommunications Council. As part of the IPTC G2-Standards family, NewsML-G2 acts as an envelope for one or more news items (such as a text article, a photo, or a video clip) or a structured package of links to news items, and contains metadata to describe the relationships between the items. NewsML-G2 is a business-to-business standard that is intended to help news agencies create complex packages of multimedia news into a single cohesive bundle.
NSX	Namibian Stock Exchange.
QCode	Qualified Code. A code used in NewsML (format *alias:value*) used to uniquely identify a concept in a scheme.
SENS	Stock Exchange News Service.
TIDM	Tradable Instrument Display Mnemonic. The mnemonic code is allocated by the Exchange and used to identify a tradable instrument. All TIDMs for JSE instruments will begin with a 1, and will be followed by 3 alphanumeric characters (e.g. 1G5T). All TIDMs for NSX instruments will begin with a 2 (e.g. 2EFD).
Tradable Instrument	A tradable instrument is the entity that is traded on an exchange. Tradable instruments include ordinary shares, preference shares, debentures, warrants, investment products, ETF's etc.
XJSE	Johannesburg Stock Exchange (using MIC codes).
XML	Extensible Markup Language (XML) is a set of rules for encoding documents in machine-readable form. It is defined in the XML 1.0 Specification produced by the W3C, and several other related specification.
XNAM	Namibia Stock Exchange (using MIC codes)..