

FMA 0200041 RFP Checklist, 2007-2017 FMP Submission

Forest Management Planning Standards (version 4.1, April 2006)		FMP Contains Supporting Documentation (col 4)	Location of Supporting Documentation	Standard or Modified Standard Achieved (col 2)	RFP Most Responsible for Preparing Documents (col 5)	RFP Most Responsible for Achieving Standard (accountable for col 2 response) (col 5)	Senior Company RFP (when standard not fully achieved) (col 6)	Comments (col 7)	Standard Modified by Alberta for this FMP (col 3)
SECTION I. INTERPRETATION OF CSA Z809-02 STANDARDS									
CSA-0.2	HIGH STANDARD OF PUBLIC INVOLVEMENT	Y	Introduction and Plan Development	Y	SB	SB			
CSA-1.0	SCOPE	N		N		SB	SB	Not applicable to FMP.	
CSA-4.0	SUSTAINABLE FOREST MANAGEMENT								
4.1	GENERAL REQUIREMENTS	Y	FMP	N	SB	SB	SB	Not all CSA SFM requirements met.	
4.2	REQUIRED ACTIVITIES	Y	FMP	N	SB	SB	SB	Not all CSA SFM requirements met.	
CSA-5.0	PUBLIC PARTICIPATION REQUIREMENTS								
5.1	BASIC REQUIREMENTS	Y	Introduction and Plan Development	Y	SB	SB			
5.2	INTERESTED PARTIES (c/d/e ONLY)	Y	Introduction and Plan Development	N	SB	SB	SB	Not all requirements met.	
5.3.1	BASIC OPERATING RULES	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; conflict of interest not addressed; prepared by J.P. Bielich	
5.4	CONTENT	N		A		SB	SB	Not all requirements met.	
5.5	COMMUNICATION	N		N		SB	SB	CSA Z809-2 Standard not being implemented, therefore no communication with public regarding implementation of Standard	
CSA-6.0	SFM PERFORMANCE REQUIREMENTS		See Annex 4						
CSA-7.0	SFM REQUIREMENT: THE CONTINUAL IMPROVEMENT LOOP								
7.3	PLANNING								
7.3.1	DEFINED FOREST AREA (DFA)	Y	Introduction and Plan Development	Y	SB	SB			
7.3.2	OWNERSHIP RIGHTS AND RESPONSIBILITIES	N		N		SB	SB	No registration applicant.	
7.3.3	SHARED RESPONSIBILITIES								
7.3.3.1	GENERAL			Y	SB	SB			
7.3.5	INCORPORATION OF PUBLIC PARTICIPATION REQUIREMENTS	Y	Introduction and Plan Development	N	SB	SB	SB	Not all requirements of clause 5 incorporated.	
7.3.6	SETTING DFA-SPECIFIC PERFORMANCE REQUIREMENTS								
7.3.6.1	GENERAL	Y	Introduction and Plan Development	N	SB	SB	SB	Not all Elements addressed.	
7.3.7	SFM PLAN	Y	FMP	N	SB	SB	SB	FMP not evaluated as an SFM plan; no comparative analysis actual/expected outcomes completed yet	
7.4	IMPLEMENTATION AND OPERATION								
7.4.3.1	GENERAL								
	b) establish and maintain procedures for receiving, documenting and responding to relevant communication from external interested parties	N		Y	SB	SB		Documentation procedures not included in FMP submission.	
	c) make the SFM plan publicly available	N		N		SB	SB	FMP not evaluated as an SFM plan; FMP will be publicly available.	
	d) make an annual report on its performance in meeting and maintaining the SFM requirements publicly available	N		N		SB	SB	Commitment to performance evaluation of FMP, as outlined in FMP, will be publicly available; no commitment to SFM plan.	
	e) make the results of independent certification and surveillance audit	N		N		SB	SB	No independent certification anticipated.	
7.4.5	DOCUMENT CONTROL	N		N		SB	SB	No document control protocol.	
7.5	CHECKING AND CORRECTIVE ACTION								
7.5.1	MONITORING AND MEASUREMENT								
7.5.1.1	GENERAL	Y	Monitoring and Research	N	SB	SB	SB/OB	No document control protocol; commitment to monitor indicators included in FMP.	
7.5.3	RECORDS	N		N		SB	SB	No document control protocol.	

CSA Annex B	SUMMARY OF REQUIREMENTS OF CSA Z809-02 (as interpreted in	Y	FMP	N	SB	SB	SB	Not all CSA Z809-2 requirements met.	
CSA Annex C	SPECIFIC PERFORMANCE REQUIREMENTS (see checklist		See Annex 4						
SECTION 2. FMP PROCESS AND CONTENT STANDARDS									
1.0 Terms of Reference									
1.1	Content	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; ToR commits to using SRD's 1998 Interim Forest Management Planning Manual Guidelines to Plan Development; subsequent SRD requirement to utilize Planning Standard not reflected in ToR; prepared by J.P. Bielich	
1.2	Goals	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; ToR commits to using SRD's 1998 Interim Forest Management Planning Manual Guidelines to Plan Development; subsequent SRD requirement for compliance with Planning Standard not addressed in ToR; prepared by J.P. Bielich	
1.3	Timelines								
i.	Vegetation Inventory	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; AVI for FMA completed prior to ToR; ToR identifies AVI approval date; target date not met; prepared by J.P. Bielich	
ii	Public participation	N	Section 4 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; Public Consultation Plan a component of Preliminary Forest Management Plan (section 4), but not specifically part of ToR (section 6); target dates not met; prepared by J.P. Bielich	
iii	Landbase description and yield projection activities and approval	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	OB	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; target dates not met	
iv	Forecasting and harvest planning activities	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	OB	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; target dates not met	
v	Ground rule process	N		N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no target dates set; prepared by J.P. Bielich	
vi	Monitoring program submissions and action plan deadlines	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; target dates not met; prepared by J.P. Bielich	
1.4	Internal and External Communication								
1.4.1	Submission requirements								
i.	Five paper copies of the FMP	N		N	OB	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no submission requirements identified; FMP will still meet submission requirements	
ii	One single digital copy of technical files	N		N	BC/KF	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no submission requirements identified; FMP will still meet submission requirements	
iii	Five digital copies (password protected and password supplied, in .pdf format)	N		N	OB	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no submission requirements identified; FMP will still meet submission requirements	
iv	A RFP validated checklist describing the extent of compliance with applicable standards	N		N	OB	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no submission requirements identified; FMP will still meet submission requirements	
1.5	Roles, Responsibilities and Obligations of Participants								

i.	Plan development team	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	Y	see comment	SB		Prepared by J.P. Bielich	
ii	Public participation group	N	Sections 4 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; Public Consultation Plan identifies stakeholders to be approached for FMP development input/review; Public Consultation Plan is a component of Preliminary Forest Management Plan (section 4), but not specifically part of ToR (section 6); prepared by J.P. Bielich	
1.6	Conflict of Interest	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; conflict of interest not addressed; prepared by J.P. Bielich	
1.7	Decision-making Methods								
1.7.1	Progressive review of plan components and final approval of FMP	Y	Introduction and Plan Development	N	SB	SB	SB	Agreement-in-principle for yield curves and landbase netdown; no FMP approval.	
1.8	Authority for Decisions	N		N		SB	SB	SRD responsibility	
1.9	Mechanism to Adjust the Process	N		N		SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no mechanism for adjustment	
1.10	Access to Information	N	Sections 4 and 6 of Preliminary Forest Management Plan, revised May 2004	N		SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; ToR addresses information available to planning team members, but does not address public stakeholders; public stakeholder access to information included in Public Consultation Plan a component of Preliminary Forest Management Plan (section 4), but not specifically part of ToR (section 6)	
1.11	Participation of Experts, Other Interests and Government	N		N		SB	SB	SRD responsibility	
1.12	Dispute Resolution Mechanism	N	Section 6 of Preliminary Forest Management Plan, revised May 2004	Y		SB		Prepared by J.P. Bielich	
2.0 Forest Management Plans									
2.1	Preliminary Forest Management Plan								
i.	brief description of the area	N	Preliminary Forest Management Plan, revised May 2004	Y	OB	SB			
ii	current Timber Supply Analysis for the area	N	Preliminary Forest Management Plan, revised May 2004	Y	see comment	SB		TSA completed by ASRD	
iii	the ToR for the detailed FMP	N	Preliminary Forest Management Plan, revised May 2004	N	OB	SB	SB	ToR part of PFMP and approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; ToR does not meet Planning Standard ToR requirements	
iv	initial values, objectives, indicators and targets (VOIT)	N	None	N		SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no VOITs	
v	spatial harvest sequence	N	None	N		SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; no spatial harvest sequence	
2.2	The Detailed Forest Management Plan								
2.2.1	A Comprehensive Description of the DFA								
2.2.1.1	Corporate Overview	Y	Introduction and Plan Development	Y	OB	SB			
2.2.1.2	Forest Management Approach	Y	Introduction and Plan Development; Timber Supply Analysis; FMP Implementation	Y	SB/OB	SB			
2.2.1.3	Landscape Assessment							see Appendix A	

2.2.2	Summary of Previous Management Plans	Y	Introduction and Plan Development	N	OB	SB	SB	PFMP did not contain performance indicators	
2.2.3	Statement of Values, Objectives, Indicators and Targets	Y	VOITs	Y	SB/OB	SB			
2.2.4	Current Status and Forecasts for Each Indicator, Including Assumptions and Methods for Forecasting	Y	VOITs	N	BC/OB	SB	SB	Many, but not all indicators have a forecast.	
2.2.5	A Description of Chosen Strategy Including Significant Actions to be Undertaken and their Associated Implementation Schedule	Y	Timber Supply Analysis	Y	SB/BC	SB			
2.2.6	A Description of the Monitoring Program and the Associated Evaluation of Actual and Expected Outcomes	Y	Monitoring and Research	N	SB/OB	SB	SB	Stewardship reporting requirements identified however standard requires submission of the report, which is a future activity	
2.2.7	A Demonstration of the Linkages between Short Term and Operation Plans and the SFM Plan	Y	FMP Implementation	N	OB	SB	SB	Linkage between short term and operational plans with FMP but FMP not evaluated re: SFM plan	

Appendix A Landscape Assessment Standards

1.0	Landscape assessment includes complete information presented in suitable text, tabular and map formats.								
1.1	Administrative boundaries								
i.	Forest management agreement	Y	FMA Area	Y	OB	SB			
ii	Defined forest area	Y	Introduction and Plan Development	Y	OB	SB			
iii	Forest management units, sustained yield units, compartments	Y	FMA Area, Landbase Netdown	Y	BC/OB	SB			
iv	Natural sub-regions	Y	FMA Area	Y	OB	SB			
v	Municipal districts	Y	FMA Area	Y	OB	SB			
vi	Federal government lands	Y	FMA Area	Y	OB	SB			
vii	Indian reservations	Y	FMA Area	Y	OB	SB			
viii	Protected areas and parks	Y	FMA Area	Y	OB	SB			
ix	Wildfire management areas	N		N	OB	SB	SB	No wildfire management areas identified for FMP.	
1.2	Physical conditions								
i.	Topography	Y	FMA Area	Y	OB	SB			
ii	Soils and landforms	Y	FMA Area	Y	OB	SB			
iii	Hydrography	Y	FMA Area	Y	OB	SB			
iv	Climate	Y	FMA Area	Y	OB	SB			
1.3	Forest landscape pattern and structure								
i.	Forest species	Y	Forest Landscape Metrics	Y	BC/OB	SB			
ii	Forest covertypes	Y	Forest Landscape Metrics	Y	BC/OB	SB			
iii	Forest age-classes	Y	Forest Landscape Metrics	Y	BC/OB	SB			
iv	Seral stages	Y	Forest Landscape Metrics	Y	BC/OB	SB			
v	Forest patches	Y	Forest Landscape Metrics	Y	BC/OB	SB			
vi	Spatial and temporal variability of covertypes and seral stages	Y	Forest Landscape Metrics; VOITs; Timber Supply Analysis	Y	BC/OB	SB			
1.4	Forest landscape disturbance and succession								
i.	Inherent disturbance regime	Y	FMA Area, Forest Landscape Metrics	Y	OB	SB			
ii	Insects and disease	Y	FMA Resources	Y	OB	SB			
iii	Invasive exotic species	Y	FMP Implementation	Y	OB	SB			
iv	Forest succession trajectories	Y	VOITs, Timber Supply Analysis	Y	SB/BC	SB			
v	Timber harvesting	Y	Introduction and Plan Development, Timber Supply Analysis	Y	AS/BC	AS			

	vi	Forest industry access	Y	VOITs, Landbase Netdown, FMP Implementation	Y	AS/BC	AS		
	vii	Industrial development	Y	Introduction and Plan Development, Landbase Netdown	Y	AS/BC	AS		
	viii	Monitoring sites	Y	FMP Implementation	Y	AS	AS		
1.5		Landscape fire assessment (see Annex 3)							
	1.5.1	Wildfire threat assessment							
		i. Fire behaviour potential	Y	Timber Supply Analysis	Y	BC	SB		
		ii Fire occurrence risk	Y	Timber Supply Analysis	Y	BC	SB		
		iii Values at risk	Y	Timber Supply Analysis	Y	BC	SB		
		iv Suppression capability	N		N		SB	SB	Not included.
1.5.5		Fire regime analysis							
		i. Fire season	Y	FMA Area, Landscape Metrics	Y	OB	SB		
		ii Fire type	Y	FMA Area, Landscape Metrics	Y	OB	SB		
		iii Fire severity	Y	FMA Area, Landscape Metrics	Y	OB	SB		
		iv Fire size	Y	FMA Area, Landscape Metrics	Y	OB	SB		
		v Fire frequency	Y	FMA Area, Landscape Metrics	Y	OB	SB		
		vi Burn probability	Y	FMA Area, Landscape Metrics	Y	OB	SB		
1.6		Land use							
	i.	Timber	Y	Introduction and Plan Development	Y	OB	SB		
	ii	Trapping	Y	FMA Resources	Y	OB	SB		
	iii	Grazing	Y	FMA Resources	Y	OB	SB		
	iv	Oil and gas industry	Y	FMA Resources	Y	AS	AS		
	v	Recreation	Y	FMA Resources	Y	OB	SB		
	vi	Tourism	Y	FMA Resources	Y	OB	SB		
	vii	Outfitting	Y	FMA Resources	Y	OB	SB		
	viii.	Cultural resources	Y	FMA Resources	Y	OB	SB		
	ix	Historical resources	Y	FMA Resources	Y	OB	SB		
	x	Visual resources	Y	FMP Implementation	Y	OB	SB		
	xi	Fish and wildlife resources	Y	FMA Resources	Y	OB	SB		
	xii	Government	Y	FMA Area	Y	OB	SB		
		Protected areas and parks	Y	FMA Area	Y	OB	SB		

ANNEX 1. TIMBER SUPPLY ANALYSIS & GROWTH AND YIELD

1.0 General Standards									
	1.1	All submissions related to TSA requiring Alberta's approval are validated by a RFP.	Y	Standards Checklist	Y	BC/KF	SB		
	1.2	All submissions meet Alberta's requirements. The requirements are:							
		i. All submissions contain RFP-validated checklists.	Y	Standards Checklist	Y	BC/KF	SB		
		ii. All submissions are in formats and on media approved by Alberta.	Y	FMP and digital submissions	Y	BC/KF	SB		
		iii. All data used in preparing the FMP must be provided to Alberta on request.	N		N		SB	SB	Deals with future action; intention is to comply
		iv. All submissions must include documentation of sufficient detail to enable Alberta to understand and replicate the submission without additional clarification.	Y	FMP and digital submissions	Y	BC/KF	SB		

v.	When one or more changes to submissions are made, the entire work shall be resubmitted.	N		N		SB	SB	Deals with future action; intention is to comply	
vi.	One single digital copy of work shall be submitted to Alberta.	Y	Digital submissions	Y	BC/KF	SB			
vii.	All submissions shall be labeled accurately.	Y	FMP and digital submissions	Y	BC/KF	SB			
viii.	All data used in the analysis must be included in the submission to Alberta for verification.	Y	Digital submissions	Y	BC/KF	SB			
ix.	Models or analysis systems used in a submission must be approved by Alberta, prior to use.	Y	Yield Curves, Timber Supply Analysis	N	BC/KF	SB	SB	Approval was not sought prior to use; TSA tools and yield curve models commonly used in Alberta	
x.	The Organization shall initiate its submission by making a comprehensive presentation of the work and data to Alberta and all affected stakeholders.	Y	Introduction and Plan Development	Y	SB	SB			
xi.	Each data set submitted shall include a data dictionary with the following information:								
a.	File name.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
b.	File type.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
c.	Name and version of the software used to create the file.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
xii.	For each field, the following must be provided:								
a.	Field name.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
b.	Field length.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
c.	Number of decimal places (where applicable).	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
d.	Description/definition of field.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
e.	Valid codes.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
f.	A description/definition for each valid code.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			
g.	A description of any processes or calculations used to create derived data.	Y	Landbase Netdown, Yield Curves, Timber Supply Analysis	Y	BC/KF	SB			

2.0 Vegetation Inventory Standards

2.1	The vegetation inventory used has been approved by Alberta	Y	Landbase Netdown	Y	AS	AS			
2.2	A description of the history of the vegetation inventory is complete and a description of the inventory update process is included.	Y	Landbase Netdown	Y	AS/BC	AS			
2.3	The effective date of the inventory is no more than 2 years prior to the submission date.	Y	Landbase Netdown	Y	AS	AS			
2.3.1	Depletions are current as of the effective date	Y	Landbase Netdown	Y	AS/BC	AS			
2.3.2	Forest coertyping in the AVI has been updated according to standards approved by Alberta and no more than 10 years prior to the effective date.	Y	Landbase Netdown	Y	AS/BC	AS			

2.3.3	Metadata is complete and accurate and includes information such as inventory version, photography dates and inventory approval dates.	Y	Landbase Netdown	Y	BC	AS			
2.3.4	The Terms of Reference addresses the need for an understorey inventory.	N	Landbase Netdown	N	see comment	SB	SB	ToR approved by SRD; ToR submitted prior to adoption of SRD Planning Standard; ToR does not address understorey inventory; understorey inventory was conducted but additional understorey attributes were not included in the approved AVI; prepared by J.P. Bielich	
2.3.5	Understorey classification has been completed according to standards approved by Alberta.	Y	Landbase Netdown	Y	BC	SB			
3.0 Landbase Description Standards									
3.1	Descriptive information has been provided to Alberta								
i.	Description outlining type and purpose of data set	Y	Landbase Netdown	Y	BC	SB			
ii	Level of accuracy of data collection	Y	Landbase Netdown	Y	BC	SB			
iii	Age or collection date	Y	Landbase Netdown	Y	BC	SB			
iv	Data source	Y	Landbase Netdown	Y	BC	SB			
v	Description of how data used in the TSA and SHS	Y	Landbase Netdown	Y	BC	SB			
vi	Copies of additional data sets used during the landbase classification process have been provided to Alberta as requested	Y	Digital submissions	Y	BC	SB			
3.2	The net landbase includes all lands available for timber harvesting								
i.	All land area in the DFA must be assigned to either the contributing (net) or non-contributing landbase and the net landbase file must have a field that distinguishes this.	Y	Landbase Netdown	Y	BC	SB			
ii	Linear developments not captured because of the widths of these features are less than the minimum widths captured in AVI must be excluded from the net landbase. Detectable seismic activity, captured in provincial base features access layer must be removed from the net landbase as an area-based deletion. The process for handling these features for inventory and volume sampling must be acceptable to Alberta, and described in the ToR.	Y	Landbase Netdown	N	BC	SB	SB	Not described in ToR, but is in the FMP	
iii	The following lands are included in the non-contributing landbase:								
a.	Crown land committed to other land uses and under dispositions	Y	Landbase Netdown	Y	BC	SB			
b.	Existing parks, wilderness areas, conservation areas and other protected areas	Y	Landbase Netdown	Y	BC	SB			
c.	Non-forested land	Y	Landbase Netdown	Y	BC	SB			
d.	Private land	Y	Landbase Netdown	Y	BC	SB			
e.	Inoperable areas due to slope and elevation constraints	Y	Landbase Netdown	Y	BC	SB			
f.	Riparian buffers	Y	Landbase Netdown	Y	BC	SB			
g.	Other buffers	Y	Landbase Netdown	Y	BC	SB			
h.	Organization defined subjective deletions	Y	Landbase Netdown	Y	BC	SB			
3.3	The landbase data includes pertinent administrative zones, as outlined in the ToR	Y	Landbase Netdown	N	BC	SB	SB	Pertinent zones identified in landbase; not outlined in ToR	
3.4	The landbase classification has been fully documented and is complete.	Y	Landbase Document	Y	BC	SB			
3.5	Attribute data and spatial data representing the final classified landbase have been provided to Alberta	Y	Digital submissions	Y	BC	SB			

3.6	The spatial data format and documentation for the classified landbase meets requirements listed.								
	i. ArcInfo export format	Y	Landbase Netdown	Y	BC	SB			
	ii Provide the ArcView shapefiles where they will be used as an input file for non-timber resource models or timber supply models	Y	Landbase Netdown	Y	BC	SB			
	iii Report the projection and datum used	Y	Landbase Netdown	Y	BC	SB			
	iv Describe the tolerance parameters used in generating the final classified landbase	Y	Landbase Netdown	Y	BC	SB			
	v Explain how sliver polygons were handled	Y	Landbase Netdown	Y	BC	SB			
	vi Submit spatial and attribute data for the entire FMU or FMA	Y	Landbase Netdown	Y	BC	SB			
	vii There must be a direct relationship between the spatial data files and the final classified landbase attribute file. The fields used to link the spatial data and attribute data must have the same field names.	Y	Landbase Netdown	Y	BC	SB			
3.7	The classified landbase file used in the TSA is complete and meets submission requirements								
	i. All fields used in the landbase classification process are included in the final classified landbase file	Y	Landbase Netdown	Y	BC	SB			
	ii The file submitted as a single flat table containing all the required information. Linked tables created using relational database software may be submitted to aid in the review process. Separate files may be submitted for separate FMUs or sustained yield units.	Y	Landbase Netdown	Y	BC	SB			
	iii The files must be in a digital format acceptable to Alberta.	Y	Landbase Netdown	Y	BC	SB			
3.8	Location information for every record in the final classified landbase attribute file is present.								
	i. FMU	Y	Landbase Netdown	Y	BC	SB			
	ii Township	Y	Landbase Netdown	Y	BC	SB			
	iii Range	Y	Landbase Netdown	Y	BC	SB			
	iv Meridian	Y	Landbase Netdown	Y	BC	SB			
	v Stand/polygon number	Y	Landbase Netdown	Y	BC	SB			
	vi Sub-stand numbers/designation	Y	Landbase Netdown	Y	BC	SB			
3.9	Stand description requirements for the vegetation inventory have been met.								
	3.9.1 Where Phase 3 inventory is used, both overstorey and understorey descriptions must be present in the final classified landbase attribute file.	N		N		SB	SB	Phase 3 inventory not used.	
	3.9.2 Where AVI is used, both overstorey and understorey descriptions must be present in the final net landbase attribute file in the following specified order. An explanation describing how horizontal stands are classified must be included.	Y	Landbase Netdown	Y	BC	SB			
	i. Moisture regime	Y	Landbase Netdown	Y	BC	SB			
	ii Density class	Y	Landbase Netdown	Y	BC	SB			
	iii Height	Y	Landbase Netdown	Y	BC	SB			
	iv Species and species percentage	Y	Landbase Netdown	Y	BC	SB			
	v Stand structure and structure value	Y	Landbase Netdown	Y	BC	SB			
	vi Origin	Y	Landbase Netdown	Y	BC	SB			
	vii Timber productivity rating	Y	Landbase Netdown	Y	BC	SB			
	viii Non-forested vegetation field and percentage cover	Y	Landbase Netdown	Y	BC	SB			
	ix Naturally non-vegetated field	Y	Landbase Netdown	Y	BC	SB			
	x Anthropogenic vegetated field	Y	Landbase Netdown	Y	BC	SB			
	xi Anthropogenic non-vegetated field	Y	Landbase Netdown	Y	BC	SB			

	xii	Stand modifier 1 and year	Y	Landbase Netdown	Y	BC	SB		
	xiii	Stand modifier 2 and year	Y	Landbase Netdown	Y	BC	SB		
	xiv	Any additional standard AVI fields used in the classification process	Y	Landbase Netdown	Y	BC	SB		
	xv	Gross stand area in hectares	Y	Landbase Netdown	Y	BC	SB		
3.10		Processed attributes approved by Alberta have been included in the classified landbase.							
	i.	Yield stratum assignment	Y	Landbase Netdown	Y	BC	SB		
	ii	Landbase assignment	Y	Landbase Netdown	Y	BC	SB		
	iii	Age-class assignment	Y	Landbase Netdown	Y	BC	SB		
	iv	Net stand area	Y	Landbase Netdown	Y	BC	SB		
	v	Field indicating whether the polygon is part of the net landbase or non-contributing landbase.	Y	Landbase Netdown	Y	BC	SB		
	vi	All inventory updates	Y	Landbase Netdown	Y	BC	SB		
	vii	All additional processed attributes used in the classification process	Y	Landbase Netdown	Y	BC	SB		
	viii	All additional processed attributes that will be used in the FireSmart Management annex	Y	Landbase Netdown	Y	BC	SB		
	ix	Classification of reforested areas is consistent with reforestation records	Y	Landbase Netdown	Y	BC	SB		
	x	All additional processed attributes Alberta deems pertinent	Y	Landbase Netdown	N	BC	SB	SB	All processed attributes used are included; no communication from Alberta re: other pertinent processed attributes
3.11		Harvested areas have been classified using the most current information on the harvest area.							
	i.	Areas harvested after March 1, 1991 shall be assigned to the yield stratum based on the regeneration stratum for the harvest area as defined in ARIS.	Y	Landbase Netdown	Y	AS/BC	AS		
	ii	Should AVI information not be available, or in Alberta's opinion, the survey information is outdated and inappropriate, Alberta will require at a conservative yield assumption be applied to pre-1991 harvest areas. Areas harvested prior to March 1, 1991 shall be assigned to a yield stratum based on the vegetation inventory in place on the effective date of the inventory, unless an alternate field survey approved by Alberta prior to the effective date demonstrates that an alternate yield curve is more appropriate. In this case the Organization may also utilize and approved alternate survey to demonstrate a more appropriate yield curve and stratum assignment.	Y	Landbase Netdown	Y	KF/BC	AS		
3.12		The distribution of the net landbase by FMU, sustained yield unit, single combined landbase or separate distinct deciduous and coniferous landbases, and the entire area, has been submitted in a detailed table.							
	i.	Summarized data must be consistent with summaries used for determining the net landbase and processed attributes.	Y	Landbase Netdown	Y	BC	SB		
	ii	Summarized areas must be consistent throughout the FMP	Y	Landbase Netdown	Y	BC	SB		
4.0	Yield Projection Standards								
	Yield Projection Technical Standards								
4.1		The yield strata used have been approved by Alberta.	Y	Yield Curves	N	KF	SB	SB	Agreement-in-principle for yield curves submission; no formal approval of yield strata.
4.2		The plan for developing yield projections has been approved by Alberta prior to implementation.	Y	Yield Curves	N	KF	SB	SB	Approaches for yield curve projections were discussed with ASRD; no formal approval prior to implementation.
	Yield Projections								

4.2.1	Yield projections predict the average merchantable volume and average tree size by species, stratum and age class.							
	i. Average merchantable volume per hectare at the utilization and merchantability standards prescribed in the Forest Management Agreement, and at any utilization or merchantability standard evaluated in the FMP and timber supply analysis for any stratum that may be subject to harvesting at such a standard.	Y	Yield Curves	Y	YQ	SB		
	ii. Average tree size by species represented as trees/m ³ or m ³ /tree.	Y	Yield Curves	N	YQ	SB	SB	Average tree size predicted for conifer and deciduous trees (species type) by yield stratum, rather than by individual tree species.
4.2.1.1	Development and review of yield projections has been completed using a data set approved by Alberta.	Y	Yield Curves	N	KF	SB	SB	The Volume Sampling Program (November 30, 2003) was submitted and outlined data set used; no formal approval of data set.
4.2.2	Natural Stand Projections							
	i. The statistical relationships between the predicted (dependant) variables and inventory (independent) variables have been stated.	Y	Yield Curves	Y	YQ	SB		
4.2.3	Managed Stand Projections							
	i. The statistical relationships between the predicted variables and variables to be used for measuring early crop performance (e.g. density, stocking, height) have been stated.	N		N		SB	SB	This will be addressed during the development of Alternative Regeneration Standards.
4.2.4	Yield projections have been calibrated to local forest conditions.							
	i. All yield projections used in a FMP have been calibrated to local conditions by using inventory data, reforestation results, and DFA-specific PSPs acceptable to Alberta.							
	a. The calibration of yield projections for natural stands must be based on inventory data from within the DFA.	Y		Y	YQ	SB		
	b. The yield projections must be consistent with the values observed in these strata for given levels of input variables (e.g., site index, density, basal area, age).	Y		Y	YQ	SB		
	c. Managed stand yield projections must be supported with analysis of reforestation results and PSPs applicable to the DFA.	N		N		SB	SB	This will be addressed during the development of Alternative Regeneration Standards.
	d. Yield projections shall require adjustment if the strata are subject to influences or risks not reflected in the data used for developing yield projections, such as understory protection, or stands affected by insects and diseases.	N		N		SB	SB	No such risks are incorporated.
4.2.5	Yield projections are relevant to VOITs in the FMP.							
	a. Yield projections must represent the strategies proposed in the management plan. Strategies such as enhanced post-harvest yields, enhanced yield on managed natural stands, uneven-aged management, and varying tree utilization standards, must have yield projections and regeneration standards that specifically predict the projected yields resulting from such activities.	Y		N	KF	SB	SB	Yield projections have been developed to represent all strategies proposed for timber supply analysis, including tree improvement activities. Associated regeneration standards have not been addressed.
	b. Yield projections incorporate permanent productivity losses (e.g. maintaining a thinned stand condition for FireSmart or wildlife management objectives).	N		N	KF	SB	SB	There are currently no assumptions of permanent productivity loss.

4.2.6	The modeling procedures evaluated and the rationale for selecting the yield projections have been described.							
a.	The methods used (e.g., multiple averaging, weighting, capping, arbitrary limit setting, using plots in multiple strata and removal of plots, or using a growth model) must be fully documented and explained.	Y	Yield Curves	Y	KF/YQ	SB		
b.	Inventory stand descriptions and origins must be maintained throughout the yield projection development process.	Y	Yield Curves	Y	YQ	SB		
4.2.7	The complete documentation required to support the proposed yield projections has been submitted. Documentation requirements are:							
a.	Individual tree and plot compilation methods used. If the compilation methods are common, a reference shall be adequate.	Y	Yield Curves	Y	KF	SB		
b.	All constants for all equations must be defined, including stump height and log length.	Y	Yield Curves	Y	KF	SB		
c.	Taper functions applied (or equations used) to estimated individual tree volume must be documented. If new taper functions are developed using localized data, the procedure must be fully documented and technically sound.	Y	Yield Curves	Y	YQ	SB		
d.	The technique used to account for cull deductions. Cull deductions are applied to yield projections rather than in the form of reduction to the harvest level in the timber supply analysis. The method of application and the magnitude of reductions must be documented.	Y	Yield Curves	Y	YQ	SB		
e.	The methods used to assign yield plots to their respective yield class. This process must be identical to the one used to stratify the net landbase into yield strata.	Y	Yield Curves	Y	KF	SB		
f.	Inventory variables used to develop volume: age relationships.	Y	Yield Curves	Y	YQ	SB		
g.	The differences between the plot measurement date and the inventory date. Plots must have a sample date within 5 years of the aerial photography interpretation used to generate the inventory label. If the age difference is greater, approval from Alberta is required before the plots are used.	Y	Yield Curves	N	KF	SB	SB	The inventory was flown in 1997 and 2000; plot data were collected between 2000 and 2004, therefore some plot data were outside of the 5-year window.
h.	The sampling intensity by yield strata. This must be quantified relative to the amount of area in the net landbase, and shall account for both the available plots, and the plots left after subjective deletions. Tables must be provided that show the number of plots by heights and ages for each stratum. Plots shall be distributed in a reasonably representative fashion.	Y	Yield Curves	Y	KF	SB		
i.	The details on the utilization standard used for both coniferous and deciduous species. Include which species are considered merchantable. Non-harvested species must not be used for yield projection. Status and use of dead trees and nil-tally plots must also be described.	Y	Yield Curves	Y	KF	SB		

	j.	The mathematical formulation of the models used during yield projection development. The corresponding table of coefficients must also be included. Statistics generated that demonstrate the validity of the relationships used in curve fitting must be reported. How death age is derived must also be described.	Y	Yield Curves; Timber Supply Analysis	Y	KF/BC	SB		
	k.	The set of post-modeling assumptions and modifications applied to the yield projections, if any. These adjustments must have been made prior to submitting the projection. The unaltered projections must also be included. All rules, constraints, or adjustments used in the TSA, which influence the yield projection shall be submitted to Alberta.	Y	Yield Curves, Timber Supply Analysis	Y	KF/BC	SB		
	l.	Volume tables and graphs of yield projections are provided in both hard copy and digital format specified by Alberta.	Y	Yield Curves	Y	KF	SB		
	m.	The natural and managed yield projections. Submit both projections as produced by the basic yield model selected, and the corresponding final yield tables that will be used in the TSA if these are different, to account for any adjustments or assumptions applied in the TSA.	Y	Yield Curves, Timber Supply Analysis	Y	KF	SB		
	n.	The plot volumes plotted against each of the yield projections. The average volumes by age-class must be included. The selection of the age-class interval is a matter of choice. When plotting the final projections, plot the data points by 20-year age-classes.	Y	Yield Curves	Y	YQ	SB		
	o.	Area weighted composite yield projections for the total productive forest landbase contributing to the proposed harvest level(s). These shall be done by cover group or closest proxy seen in the Organization's selected yield strata. These projections must include the area-weighted average values by age-class, as above.	Y	Yield Curves	Y	KF	SB		
	p.	The amount of area per yield stratum in the net landbase, along with the number of samples used to develop the age:volume relationship. The samples are balanced with respect to the current inventory. Both percentages and actual numbers must be provided.	Y	Yield Curves	Y	KF	SB		
Models									
4.2.8		The stand model or analytical system used to generate yield projections has been approved by Alberta. Alberta's requirements for models used to develop yield projections are:	Y	Yield Curves	N	KF	SB	SB	No formal approval.
	i.	Biological assumptions and mathematical relationships used shall be explicit and made available to Alberta. Both a hard copy and a digital copy of pertinent program codes (i.e., actual code segments listing the coefficients and functions) must be provided.	Y	Yield Curves; Digital Submissions	N	YQ	SB	SB	Full SAS code has been provided for review in digital format only.
	ii.	The structure of the model shall be biologically realistic and consistent with established theories of stand growth and yield.	Y	Yield Curves	Y	YQ	SB		
	iii.	Statistical properties and error shall be evaluated and known.	Y	Yield Curves	Y	YQ	SB		

iv.	Sensitivity, bias, and precision of the model and its components shall have been tested with independent data sets.	N		N		SB	SB	Independent data were not available. All available data were used in yield curve development.	
v.	Predictions shall be reasonable and within the ranges of parameter variation observed in the data used for model development and local validation.	Y	Yield Curves	Y	YQ	SB			
vi.	Predictions of absolute productivity for natural stand yield projections must be consistent with unbiased mean values from the defined strata.	Y	Yield Curves	Y	YQ	SB			
vii.	Model forecasts must be evaluated using available real growth data at intervals not exceeding 10 years.	N		N		SB	SB	No growth data were available for the FMA area.	
viii.	Models shall have undergone independent peer review.	N		N		SB	SB	Independent peer review not undertaken.	
Data									
4.2.8.1	Data used for yield verification have been approved by Alberta. The design must include the following:	Y	Yield Curves	N	KF	SB	SB	No formal approval.	
a.	Predictions of absolute productivity must be based on observations within the established Alberta vegetation and ecological stratification.	N		N		SB	SB	Predictions of productivity (TPR, site index) were not employed in yield curve development.	
b.	Temporary (TSP, single-examination) or permanent (PSP, re-measured) sample plots may be used for model development and local calibration. Real (direct) growth data from permanent sample plots are preferred for validation.	Y	Yield Curves	Y	KF	SB			
4.2.8.2	The volume sampling design has been approved by Alberta and fieldwork did not commence prior to this approval. The design must include the following:	Y	Yield Curves	Y	KF	SB			
a.	The sample design used must demonstrate that the sample provides an unbiased representation of forest types present in the net landbase. Stand selection and plot location procedures must ensure that commonly recognized principles for a statistically valid sample design are followed.	Y	Yield Curves	Y	KF	SB			
b.	Quality control procedures.	Y	Yield Curves	Y	KF	SB			
c.	A description of any additional data or information collected, including how it may be used.	Y	Yield Curves	Y	KF	SB			
d.	The sample design must provide a representative sample of the net landbase. The plots must be allocated in an unbiased random or a systematic (grid) basis.	Y	Yield Curves	Y	KF	SB			
e.	Plots must be 100 m ² or larger in size.	Y	Yield Curves	Y	KF	SB			
f.	If multiple plots are established from a single location (i.e. as a transect across a polygon), the plots must be established in a manner that minimizes bias in the sample.	N		Y	KF	SB		Not used; no documentation in FMP.	
g.	If plots are moved from their original, planned location (e.g. to avoid seismic lines) a description of the procedures followed to relocate the plots must be provided. Procedures for dealing with nil tally plots must also be described.	Y	Yield Curves	Y	KF	SB			
h.	Plots originally established for operational timber cruising must not be used as inventory volume sampling plots without Alberta's approval.	N		Y	KF	SB		Not used; no documentation in FMP.	

4.2.8.3	Volume sampling data sets have been submitted in a format acceptable to Alberta. Required data includes:							
a.	Raw, uncompiled sample tree and plot data.	Y	Digital submissions	Y	KF	SB		
b.	Any intermediate analysis.	Y	Digital submissions	Y	KF	SB		
c.	Complete AVI attributes attached to the full plot header.	Y	Digital submissions	Y	KF	SB		
d.	Individual tree compilations.	Y	Digital submissions	Y	KF	SB		
e.	Plot-level and stratum-level compilations.	Y	Digital submissions	Y	KF	SB		
f.	Co-efficient files, as well all other external files needed to duplicate the submitted analysis.	Y	Digital submissions	Y	KF	SB		
g.	A data dictionary.	Y	Digital submissions	Y	KF	SB		
4.2.8.4	An explanation of the methodologies used to construct all pertinent relationships accompanies the data.							
i.	Methodologies must clearly state whether the data used originated from within the area or from outside it. Spatial information must be provided that shows the location and distribution of sample plots.	Y	Yield Curves; Digital submissions	Y	KF	SB		
4.2.8.5	Deletions from the gross landbase have been removed from the yield data.							
a.	The data used to localize the yield projections must be collected from sites in the net landbase. If the sampling scheme was applied without stratification to gross areas including riparian buffers or other management deletions, it shall be necessary to post-stratify the data, or demonstrate that statistically significant differences do not exist between the mean attribute values for samples falling in the portions of each stratum which are defined as operable and non-operable.	Y	Yield Curves	Y	KF	SB		
b.	The complete set of AVI attributes must be attached to the plot data. All deletions from the available data, including subjective deletions and unlinked plots, must be reported and explained in detail.	Y	Digital submissions	Y	KF	SB		
c.	Documentation must be sufficient to enable Alberta to replicate and verify all calculations and the following characteristics of the resulting yield projections: site class, density class, origin, stand type, age, and other criteria relevant to the FMP.	Y	Yield Curves, Digital submissions	Y	KF	SB		
Yield Projection and Reforestation Monitoring Standards								
4.2.9	Monitoring systems approved by Alberta have been scheduled to be implemented.	Y	Monitoring and Research	N	AS/SB	SB	SB	Monitoring not approved by Alberta.
4.2.10	A mechanism is in place to ensure that treatments approved in the FMP are implemented.							
4.2.10.1	RFP validated Alberta Regeneration Information System (ARIS) submissions accurately report all treatments.	N		N		SB	SB	Deals with future action; intention is to comply
4.2.11	All clearcut harvest areas, and partial cut harvest areas (following the first harvest entry) have been assigned to a yield projection based on the results of an objective assessment survey approved by Alberta. (see standard 3.11 of this Annex)	Y	Landbase Netdown	Y	AS/BC	SB		

4.2.12	A permanent sample plot program, comprising a sufficient number of sample plots established to a standard approved by Alberta for each natural and managed strata yield projection used in the FMP, has been implemented.	Y	FMP Implementation	N	AS/KF	SB	SB	PSP program part of the growth and yield plan; submitted for approval as part of FMP	
4.2.13	Actual delivered volumes, versus volumes anticipated by yield projections from harvested areas has been reported and includes the statistical significance of all variances.	N		N		SB	SB	Deals with future action; intention is to comply	
Reforestation Performance Standards									
4.3.1	A mechanism is in place to develop alternative regeneration performance standards acceptable to Alberta, which maintain the coniferous and deciduous LRSYA on managed essential stands at a level equal to or greater than that projected using the current Survey Manual standards.	N		N		AS	SB	ARS not in place; will be developed	
4.3.2	<i>Alternative regeneration standards</i> include the key parameters for each stratum.								
a.	Stocking	N		N		AS	SB	ARS not in place; will be developed	
b.	Density by species	N		N		AS	SB	ARS not in place; will be developed	
c.	Height by species	N		N		AS	SB	ARS not in place; will be developed	
d.	Free-to-grow	N		N		AS	SB	ARS not in place; will be developed	
e.	Other pertinent parameters used in the stand growth model	N		N		AS	SB	ARS not in place; will be developed	
4.3.3	Survey procedures and timing comply with the Survey Manual.	N		N		AS	SB	ARS not in place; will be developed	
4.3.4	<i>Alternative regeneration standards</i> describe a process for amalgamating FMP strata into the 10 provincial base strata.	N		N		AS	SB	ARS not in place; will be developed	
4.3.5	<i>Alternative regeneration standards</i> survey data has been reported to ARIS according to requirements in the <i>ARIS Industry Operations Manual</i> .	N		N		AS	SB	Deals with future action; intention is to comply	
4.3.6	The strata balancing directive has been followed.	N		N		AS	SB	Deals with future action; intention is to comply	
4.3.7	<i>Alternative regeneration standards</i> have been developed using applicable research, information from past treatments, pertinent growth models, raw plot data from regeneration surveys, PSP information and additional studies from managed stands, and all data used to develop the standards have been provided to Alberta.	N		N		AS	SB	ARS not in place; will be developed	
4.3.8	Written agreement with the proposed <i>alternative regeneration standards</i> from all affected <i>timber disposition holders</i> has been provided for DFAs with overlapping timber dispositions. If agreement is lacking, a written statement of concerns from those not in agreement has been provided.	N		N		AS	SB	ARS not in place; will be developed	
4.3.9	<i>Alternative regeneration standards</i> have been approved by the Executive Director, Forest Management Branch prior to their implementation.	N		N		AS	SB	ARS not in place; will be developed	
5.0 Forecasting Standards									
5.1	The TSA for the preferred forest management scenario generates maps showing the future forest condition at appropriate strategic and operational scales.	Y	Values, Objectives, Indicators and Targets, Timber Supply Analysis	Y	BC	SB			
5.2	All data sets used in the landbase classification process have been approved by Alberta for use in the Timber Supply Analysis.	N	Landbase Netdown	N	BC	SB	SB	AVI approved; Landbase has agreement-in-principle	

5.3	The model used in forecasting, the landbase description, and the yield projections used for the forecasts, have been approved by Alberta.	Y	Timber Supply Analysis	N	BC	SB	SB	No formal approval.	
i.	Model name	Y	Timber Supply Analysis	Y	BC	SB			
ii	Version number	Y	Timber Supply Analysis	Y	BC	SB			
iii	Creator	Y	Timber Supply Analysis	Y	BC	SB			
iv	Model type (e.g., simulation, optimization)	Y	Timber Supply Analysis	Y	BC	SB			
v	Description of model capabilities	Y	Timber Supply Analysis	Y	BC	SB			
vi	Description of history of the model and its use in Alberta and/or Canada.	Y	Timber Supply Analysis	Y	BC	SB			
5.4	A complete digital copy of the model formulation and a description of the process used to create the input files for each forecast is available to Alberta.								
i.	Digital files containing the model input files used in the analysis of the preferred scenario and any supporting sensitivity analyses must be provided.	Y	Timber Supply Analysis	Y	BC	SB			
5.5	The submission includes a detailed explanation of the decision-making process used to select the preferred scenario.								
i.	The forecasts used to derive the preferred scenario must use the classified landbase and yield projections that have received Alberta's <i>agreement-in-principle</i> .	Y	Landbase Netdown	N	BC	SB	SB	Used the TSA landbase, as described in the FMP	
ii.	A summary of the various alternatives tested leading to selection of the preferred scenario must be provided, including a rationale for the various technical protocols that were evaluated and changed between runs.	Y	Timber Supply Analysis	Y	BC	SB	SB		
5.6	The submission includes a description of the forecasts completed (see Standard 5.4) and the rationale used in the review and analysis of each scenario.								
i.	Projected forest structure is generally acceptable to Alberta.	Y	Timber Supply Analysis	N	AS/BC	SB	SB	Addressed; acceptability to Alberta not known	
a.	Compartment sequence and spatial harvest sequence in each compartment (see standard 5.7)	Y	Timber Supply Analysis	N	AS/BC	SB	SB	Addressed; acceptability to Alberta not known	
b.	Road corridors necessary to implement the harvest sequence.	Y	FMP Implementation	N	AS	SB	SB	Addressed; acceptability to Alberta not known	
c.	Habitat requirements for species of special management concern.	Y	Timber Supply Analysis; FMP Implementation	N	AS/BC	SB	SB	Addressed; acceptability to Alberta not known	
d.	Age-class, opening size and cover type distribution	Y	Timber Supply Analysis; Forest Landscape Metrics	N	BC	SB	SB	Addressed; acceptability to Alberta not known	
e.	Wildfire threat	Y	Timber Supply Analysis	N	BC	SB	SB	Addressed; acceptability to Alberta not known	
ii.	Projected timber supplies are acceptable.								
a.	Volumes projected	Y	Timber Supply Analysis	N	BC	SB	SB	Addressed; acceptability to Alberta not known	
b.	Tree size, silviculture and haul distance are reasonably stable throughout the planning horizon	Y	Timber Supply Analysis	N	BC	SB	SB	Addressed; acceptability to Alberta not known	
iii	Sensitivity of long-term forecasts to yield projections.	N		N		SB	SB	No concerns identified.	

iv	Sensitivity of long-term forecasts to accelerated harvests							
a.	Occurs over the first 20 years of the planning horizon	N		N		SB	SB	No accelerated harvests.
b.	Recommended harvest level does not exceed 125% of the unaccelerated average even-flow harvest level	N		N		SB	SB	No accelerated harvests.
c.	The average even-flow harvest level for the remaining 180 years is not less than 90% of the unaccelerated average even-flow harvest flow for the entire planning horizon.	N		N		SB	SB	No accelerated harvests.
v	Evaluation of enhanced forest management strategies and calculation of AACS changes.	Y	Timber Supply Analysis	Y	BC	SB		
5.6.1	The reasons for any changes in the timber supply between the preferred scenario and the existing approved timber supply has been explained in the documents.	N		N		SB	SB	No changes
5.6.2	Information required on the preferred scenario has been submitted to Alberta.							
i.	The data shall be submitted in a digital flat-file	Y	Digital submissions	Y	BC	SB		
ii	Information must include the total DFA area and cover the entire planning horizon (see standards 5.10 and 5.11)	Y	Digital submissions	Y	BC	SB		
5.7	The Spatial Harvest Sequence (SHS) has been selected considering key issues.	Y	Timber Supply Analysis	Y	AS	AS		
i.	The timber operators agree on which operator will be harvesting which stands identified in the SHS. The agreement must be in sufficient detail to be applicable at the time of operations.	Y	Timber Supply Analysis	Y	AS	AS		
ii.	Agreement on stands with inventory-identified understorey is required.	Y	Timber Supply Analysis	Y	AS	AS		
iii	The scheduling of operations in various compartments is acceptable. The location and scheduling of forest management activities may be a useful tactic for meeting other resource needs.	Y	Timber Supply Analysis	Y	AS	AS		
iv	The distribution and arrangement of stands to be harvested is acceptable. The objective is to select a SHS that optimally addresses the following issues:							
a.	Protection of watershed and riparian values	Y	Timber Supply Analysis	Y	BC	SB		
b.	Maintenance of effective habitat for species of special concern.	Y	Timber Supply Analysis	Y	BC	SB		
c.	Meet visual quality objectives	Y	FMP Implementation	N	OB	SB	SB	Visual quality objectives within the Highway Management Zone will be addressed in operational plans.
d.	Feasibility of efficient forest management operations	Y	Timber Supply Analysis	Y	BC	SB		
e.	Desired future forest structure	Y	Timber Supply Analysis	Y	BC	SB		
f.	Acceptability of fire threat	Y	Timber Supply Analysis	Y	BC	SB		
g.	Insects and diseases	Y	Timber Supply Analysis	Y	BC	SB		
h.	Intensive energy sector development (e.g., mining, SAGD, heavy oil)	Y	Timber Supply Analysis	Y	BC	SB		
5.8	Mandatory assumptions have been applied in the preferred scenario.							
A	Fundamental Even Flow Scenario Assumptions							

	i. The planning horizon is 200 years	Y	Timber Supply Analysis	Y	BC	SB		
	ii Even-flow timber supply for the planning horizon - the maximum allowable tolerance in the periodic harvest is +/- 5% of the planning horizon average	Y	Timber Supply Analysis	Y	BC	SB		
	iii. The amount of operable growing stock must be stable over the last quarter of the planning horizon	Y	Timber Supply Analysis	Y	BC	SB		
	iv. The total coniferous and total deciduous volumes must be projected.	Y	Timber Supply Analysis	Y	BC	SB		
	B Uneven Flow Scenario Assumptions							
	i. Prevalence of older age-classes	N		N		SB	SB	No uneven flow scenarios.
	ii Immature forests	N		N		SB	SB	No uneven flow scenarios.
	iii. The amount of operable growing stock must be stable over the last quarter of the planning horizon	N		N		SB	SB	No uneven flow scenarios.
	iv. The total coniferous and total deciduous volumes must be projected.	N		N		SB	SB	No uneven flow scenarios.
5.9	The submission includes documentation explaining each managed assumption in the preferred scenario							
5.9.1	Strata transitions have been supported with evidence from performance analyses of past silviculture treatments. The submission includes firm commitments to conduct the silviculture treatments necessary to provide sufficient assurance that the transitions proposed are practical and reasonable.	Y	FMP Implementation	N	SB	SB	SB	Transitions not supported with analyses; commitments for silviculture treatments included
5.9.2	Silviculture regimes have been developed for all FMP strata	Y	FMP Implementation	Y	SB	SB		
5.9.3	Landbase assignments for coniferous and deciduous timber have been established	Y	Landbase Document	Y	BC	SB		
5.9.4	Coniferous understory management is based on data acceptable to Alberta	Y	Timber Supply Analysis	Y	BC	SB		
5.9.5	Green-up constraints acceptable to Alberta have been applied.	Y	FMP Implementation	N	OB	SB	SB	Alternate strategy utilized; acceptability to Alberta not known.
	i. The default green-up periods for Alberta harvested areas are 20 years for coniferous and 10 years for deciduous. Green-up constraints may be altered as long as the results is acceptable. The minimum criteria for acceptability of alternate strategies are:							
	a. The opening size predicted for the first two 20-year periods falls within the natural range of variability. Analyses of forest cover inventory in the area will provide guidance regarding acceptable opening sizes, and	Y	Timber Supply Analysis; FMP Implementation	Y	BC	SB		
	b. The distribution of proposed harvesting is generally acceptable to stakeholders, or	Y	Introduction and Plan Development; FMP Implementation	Y	SB	SB		
	c. A biodiversity analysis acceptable to Alberta has been completed.	Y	FMA Area; Forest Landscape Metrics; FMP Implementation	N	OB	SB	SB	Analysis completed; acceptability to Alberta not known.
5.9.6	Allowances for natural disturbance events have been addressed.							
	i. Describe how losses from fire and/or insects and diseases are addressed.	Y	Timber Supply Analysis	Y	BC	SB		

	ii	Burned areas shall be deleted from the net landbase unless the Organization commits to reforest the areas, or an approved forest cover inventory shows that acceptable forest cover has been re-established.	Y	Timber Supply Analysis	Y	BC	SB		
5.9.7		A process, acceptable to Alberta, has been developed to account for, accurately report and allocate total timber depletion on the DFA.							
	i.	All future timber losses due to other land uses (e.g., energy and grazing) shall be assessed and treated as production in cut control management.	N		N		SB	SB	Deals with future action; intention is to comply
	ii	Strategies for minimizing these losses and measuring timber volume depletions shall be identified.	Y	FMP Implementation	Y	SB/OB	SB		
	iii.	Historic timber losses from other land use activities shall be captured in the current net landbase for the FMP.	Y	Landbase Netdown	Y	BC	SB		
5.9.8		A strategic plan for forest management access throughout the DFA is completed.	Y	FMP Implementation	Y	AS	SB		
5.9.8.1		A proposed road corridor plan describing the permanent road network needed to access the total net landbase and implement the spatial harvest design has been completed.	Y	FMP Implementation	Y	AS	SB		
5.9.8.2		All forestry access limitations have been considered and explained.							
	i.	Explain compartment sequencing or constraints on areas that are inaccessible for a period of time.	Y	Timber Supply Analysis	Y	BC	SB		
5.9.9		Productivity losses from road, decking and processing areas on reforested areas have been applied.							
	i.	A 5% reduction in reforested area following harvest shall be incorporated into the TSA to account for losses from unsuccessfully reclaimed temporary roads, decking and processing areas. Organizations may minimize this reduction through analysis of survey data on actual losses in each FMP.	Y	Timber Supply Analysis	Y	BC	SB		
5.9.10		Timber operability and economic limitations have been reported.							
	i.	At minimum, piece size must be predicted for the entire planning horizon to ensure that precipitous declines in the future are avoided.	Y	Timber Supply Analysis	Y	BC	SB		
	ii	A minimum harvest age shall be established for each yield stratum that reflects the operability limits and piece size.	Y	Timber Supply Analysis	Y	BC	SB		
5.9.11		Strategies to address biodiversity and species of special management concern have been established.							
	i.	Retaining significant stand structure characteristics in harvested areas is essential to maintaining ecosystem functions. The objective is to leave sufficient structure with minimum impact on timber supplies.	Y	Timber Supply Analysis	Y	BC	SB		
	ii	Merchantable volumes that are permanently retained to create stand structure shall be measured and treated as production in cut control.	Y	FMP Implementation	Y	AS	AS		
	iii.	The plan for implementing, monitoring and reporting on structure retention must be included in the FMP.	Y	FMP Implementation	Y	AS	AS		

	iv. Habitat requirement and access management strategies to address species of special concern have been addressed.	Y	Timber Supply Analysis, FMP Implementation	Y	AS	AS			
5.9.12	Strategies to address forest protection issues have been established.								
5.9.13	Predictions for water yield and strategies to manage riparian issues have been established.	Y	Timber Supply Analysis	Y	RR	SB			
a.	Where changes in operating ground rule watercourse buffers are proposed, the rationale and projected results must demonstrate that the future forest landscape is significantly enhanced over that which is created by current standards and is acceptable to Alberta.	N		N		SB	SB	No changes to buffers proposed in FMP.	
5.9.14	Visual quality strategies have been established								
i.	Strategies to address visual quality must be identified and implemented.	Y	FMP Implementation	Y	SB	SB		Implementation also has an operational component.	
5.9.15	The requirements of the Standards for Tree Improvement in Alberta have been addressed.	Y	FMP Implementation	Y	AS	AS			
5.9.16	Grazing interests have been addressed.	N		N		SB	SB	No grazing interests to integrate.	
Future Forest Condition									
5.10	A data set has been provided containing the post-harvest forest condition for the preferred forest management scenario, for 0, 10, 20 and 50 years for each FMU and/or sustained yield unit.	Y	Digital submissions	Y	BC	SB			
Harvest Schedule									
5.11	A data set has been provided containing the harvest schedule for 70 years for the preferred forest management scenario, for each FMU and/or sustained yield unit, compartment and period.	Y	Digital submissions	Y	BC	SB		Provided for 200 years.	
5.12	Table 1 has been completed for all forest operators and included in the FMP.	Y	Timber Supply Analysis	Y	BC	SB			
6.0 Harvest Planning Standards									
6.1	A mapped spatial harvest sequence (hard copy and data file) showing the inventory cover types scheduled for harvest in the first two 10-year periods of the planning horizon has been submitted.	Y	Timber Supply Analysis	Y	BC	SB			
6.2	A Strata Description Table describing the areas in each compartment of the age-classes in each yield strata scheduled for harvest in the first two 10-year periods of the planning horizon has been submitted (see standard 5.6.2).	Y	Timber Supply Analysis	Y	BC	SB			
6.3	The SHS reflects the net landbase strata profile.	Y	Timber Supply Analysis	Y	BC	SB			
6.4	The SHS has been developed to comply with the planning and operational implementation conditions.								
i.	The SHS shall incorporate any harvest areas that are planned or approved in operating plans at the time of the effective date for the inventory.	Y	Timber Supply Analysis	Y	AS/BC	SB			
ii.	The second decade of stands identified in the SHS are included in this plan to facilitate the transition to the next FMP, due at the end of the first decade.	Y	Timber Supply Analysis	Y	BC	SB			
iii.	Alternative SHS implementation protocols, as follows, may be acceptable to Alberta.								

	a.	The harvest area must not exceed 110% of the approved SHS/SDT area by yield stratum and compartment and shall not exceed 100% of the yield stratum area by decade unless otherwise approved by Alberta (i.e., no single stratum harvest area shall exceed 100%)	N		N		SB	SB	Alternative SHS implementation protocols not utilized.	
	b.	i and ii above	N		N		SB	SB	Alternative SHS implementation protocols not utilized.	
6.5		Variances from the SHS and SDT have been totaled and reported for all operational plans addressed in the current FMP at the time of operational planning (I.e., preparing the harvest design for an area as per the Timber Harvest Planning and Operating Ground Rules)								
	i.	Variances shall be identified as additions or deletions. Deletions are either permanent deletions from the net landbase or deferrals to a later time, and are organized as follows:	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
	a.	Operational changes in harvest area (covertype boundary changes for operational efficiency and additional buffers or deletions required that were not deleted from the net landbase).	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
	b.	Inventory (inaccuracies in cover typing, errors in landbase determination and covertypes deleted or deferred for economic reasons).	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
6.6		Reported variances from the SHS/SDT have been used to modify the timber supply analysis.								
	i.	Avoidance (deletion or deferral) of harvest on poor quality covertypes in the harvest sequence.	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
	ii.	Operational deletions not addressed in the net landbase.	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
	iii.	Inventory changes that result in changes to the landbase/operator designation.	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
	iv.	Variance shall be treated as follows in operational planning:								
	a.	If the variance is less than 20% on a harvest design (FHP) that was validated by a RFP, Alberta shall expedite the approval and comment on any concerns arising from a review of the variance.	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
	b.	Such comments must be addressed in preparing the stewardship report or next management plan.	N		N		SB	SB	Deals with future action; intention is to comply through Variance Reporting.	
	iv.	If the variance exceeds 20%, Alberta shall conduct a full review of the design prior to approval.	N		N		SB	SB	SRD responsibility; future action	
Appendix A Implementation of New Annual Allowable Cut Standards										
	2.2	The revised AAC has been allocated using methods acceptable to Alberta	Y	Timber Supply Analysis	N	BC	SB	SB	Allocation used; acceptability to Alberta not known.	
	2.3	Changes that do not affect all operators in an FMU								
	2.3.1	Over-cut adjustments have been deducted.	N		N		SB	SB	No known over-cuts.	
	2.3.2	Reforestation adjustments have been applied.	N		N		SB	SB	No known reforestation yield projection changes.	
	2.4	Changes due to Enhanced Forest Management have been allocated	Y	Timber Supply Analysis	Y	BC	SB			
Appendix B Timber Supply and Reforestation Impacts from Wildfire										
		Fire Salvage Areas	Y	Landbase Netdown	Y	BC	SB			
		Burned Harvest Areas	N		N		SB	SB	No burned harvest areas.	
		Unsalvaged, Potentially-Productive Landbase	N		N		SB	SB	No incorporation of unsalvaged, potentially productive landbase.	
Appendix C Reforestation Strategies										
		Reforestation Forecasting Tool Requirements	N		N		SB	SB	No regeneration forecasting tools utilized in FMP.	

	Regeneration Model Requirements	N		N		SB	SB	No regeneration model utilized in FMP.	
PLANNING AND MONITORING STANDARDS FOR PARTIAL HARVESTS									
1.0 Deciduous Stands with Coniferous Understories									
	The allocation of stands with understories to either the coniferous or deciduous landbase to make operational planning and reforestation less problematic, unless all affected timber operators reach an agreement on an alternative strategy acceptable to Alberta.	Y	Landbase Netdown	Y	BC	SB			
	Proposed treatments in FMP follow: Partial (non-clearcut) Planning and Monitoring Guidelines, Forest Management Branch, July 2005.	N		N		SB	SB	No understorey protection harvesting in FMP.	
2.0 Commercial Thinning									
2.1	The final yield (at assumed rotation or culmination of mean annual increment) has not been compromised through planning and thinning operations.	N		N		SB	SB	No commercial thinning in FMP.	
2.2	Thinning plans have been submitted as a component of the AOP (Reforestation Program), to Alberta for approval.	N		N		SB	SB	No commercial thinning in FMP.	
2.3	Thinning plans have been developed to achieve the operational and monitoring conditions.	N		N		SB	SB	No commercial thinning in FMP.	
2.3.1	Damage to residual growing stock during CT operations shall be limited to a maximum of 5% of a thinned stand. An individual tree must sustain less than 400 cm ² of bole damage (bark removed to the cambium layer) to be excluded in the assessment of total stand damage.	N		N		SB	SB	No commercial thinning in FMP.	
2.3.2	A post harvest survey, acceptable to Alberta, shall be conducted to assess degree of damage and windthrow 3-5 years after the thinning treatment, in addition to post-harvest species composition, stand structure (height/density, stand table), live crown ratio, slenderness coefficient, total stand volume, and site index as compared to pre-harvest objectives.	N		N		SB	SB	No commercial thinning in FMP.	
2.4	Commercial thinning timber volumes exempt from AAC chargeability have been approved by Alberta and Alberta agrees that final timber yields will not be compromised.	N		N		SB	SB	No commercial thinning in FMP.	
2.5	Reforestation obligations have been determined and approved by Alberta.	N		N		SB	SB	No commercial thinning in FMP.	
3.0 Other Partial Harvests and Pre-commercial Thinning									
3.1	Stand level plans (crop plans) contain the required information and have been submitted as part of the AOP to Alberta for approval.	N		N		SB	SB	No partial harvest or pre-commercial thinning in FMP.	
3.2	A survey 3 to 5 years after treatment, to assess if structure was retained as planned, has been completed.	N		N		SB	SB	No partial harvest or pre-commercial thinning in FMP.	
3.3	The Alberta Regeneration Survey Manual surveys and standards have been followed, unless otherwise approved by Alberta.	N		N		SB	SB	No partial harvest or pre-commercial thinning in FMP.	
ANNEX 3. FIRESMART MANAGEMENT									
1.0 Introduction									
2.0 Roles and Responsibilities									
2.1	The Organization has led a landscape fire assessment for the DFA.	Y	Timber Supply Analysis	Y	BC	SB			
2.2	Current models and data necessary for Wildfire Threat Assessment have been acquired from Alberta.	Y	Timber Supply Analysis	Y	BC	SB			

2.2.1	Data has been made available to Alberta upon request.	N		N		SB	SB	Deals with future action; intention is to comply.	
2.2.2	The Organization has chosen FireSmart strategies.	Y	Timber Supply Analysis	Y	BC	SB			
2.2.3	The Organization has collaborated with Alberta and other key stakeholders within the Wildfire Management Area	N		N		SB	SB	No wildfire management areas identified for FMP.	
2.2.4	The current Wildfire Threat Assessment model has been used to assess wildfire threat on the DFA.	Y	Timber Supply Analysis	Y	BC	SB			
DFA Scale Assessment									
2.3	A landscape fire assessment has been completed for the DFA.								
2.3.1	The FMP forecasts fire behavior potential for the planning horizon at specified increments.	Y	Timber Supply Analysis	Y	BC	SB			
2.3.2	The preferred scenario considers strategic FireSmart planning in priority areas, based on the landscape fire assessment.	Y	Timber Supply Analysis	Y	BC	SB			
2.3.3	Submissions for review and approval are complete and meet Alberta's requirements. Requirements include:								
a.	Submission of updated data required for processing, reviewing and approval specific to FireSmart initiatives for the FMA.	Y	Timber Supply Analysis	Y	BC	SB			
b.	Completion and submission of forecasted fire behaviour potential based on specified time periods for the FMA.	Y	Timber Supply Analysis	Y	BC	SB			
c.	Completion and submission of the fire regime analysis report for the FMA.	Y	Timber Supply Analysis	Y	BC	SB			
3.0 Forest Protection Values, Priorities and Objectives									
3.2.1	Fire management objectives have been developed to reduce wildfire threat potential and enhance the positive attributes of fire.	Y	Values, Objectives, Indicators and Targets; Timber Supply Analysis	Y	SB/BC	SB			
3.3	The FMP identifies targets for indicators of wildfire risk (Annex 4).								
i.	Percentage reduction in fire behaviour potential area within the FireSmart Community Zone.	Y	Values, Objectives, Indicators and Targets	N	SB/OB	SB	SB	Currently no FireSmart Community Zones identified within FMA Area.	
ii.	Area of prescribed burn within the FireSmart Community Zone.	N		N		SB	SB	Currently no FireSmart Community Zones identified within FMA Area.	
i.	Percentage reduction in fire behaviour potential area across the DFA now and over the planning horizon (FireSmart Landscape Zone).	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
ii.	Area of prescribed burn within the FireSmart Landscape Zone.	N		N		SB		No prescribed burning planned.	
4.0 Forecasting									
4.1	Spatially explicit information for the preferred management strategy at 0, 10, 20 and 50 years has been included in the FMP.	Y	Digital submissions	Y	BC	SB			
4.2	Alberta's 4-step process has been used to forecast the relationship between harvest sequence patterns and fire behaviour potential.	Y	Timber Supply Analysis	Y	BC	SB			
Reporting									
5.0	Summary reports of FireSmart strategies have been included in the AOP in a format acceptable to Alberta.	N		N		SB		Future action; intent is to comply.	
ANNEX 4. PERFORMANCE STANDARDS									
	Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 1.1.1.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			

Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 2.1.3.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 3.1.1.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 3.1.1.2.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 3.2.1.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 3.2.2.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Value and Objective under element 4.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Value and Objective under element 4.2.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 5.1.1.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 5.2.1.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 5.2.2.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 5.2.3.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 6.1.1.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			
Indicator, Target, Monitoring, Reporting and Acceptable Variance have been established as per Annex 4 Performance Standard for Objective 6.2.1.1.	Y	Values, Objectives, Indicators and Targets	Y	SB/OB	SB			