Adopted Levels

	History		
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1041 (2013)	1-Aug-2011

$Q(\beta^-)=-3629$ *SY*; $S(n)=6051$ *SY*; $S(p)=3711$ *SY*; $Q(\alpha)=9130$ *SY*   2012Wa38
Estimated $\Delta Q(\beta^-)=90$, $\Delta S(n)=79$, $\Delta S(p)=125$, $\Delta Q(\alpha)=71$ (2012Wa38).
Additional information 1.

Calculations, compilations:
α decay, Q values, Half-lives: 2010Do08, 2010Si27, 2009Do22, 2009Sa25, 2008Do12, 2008Ro06, 2007Zh41, 2006Pa12, 2006Xu04,
    2005Re16, 2004Xu02, 2003Re32, 2002Gu24, 2001Mo07.
Favored α decay: 1993Bu09.
g.s. properties: 1997Mo25, 1995Mo29.
Single-particle Nilsson levels: 2005Pa28, 2005Pa73, 1994Cw02.
Fission Barriers: 2000Du06.
Spontaneous fission: 2000Ho27.
Nuclear reactions:
$^{136}\text{Xe}(^{124}\text{Sn,N})$ E=289.5 MeV (2008Sm02,2001De23).
$^{242}\text{Pu}(^{22}\text{Ne,5n})$ (2000La34).

1994Cw02 calculate the following single-particle level sequence: g.s., 1/2[620]; 0.01 MeV, 3/2[622]; 0.05 MeV, 11/2[725]; 0.11
    MeV, 7/2[613]; 0.40 MeV, 9/2[615]; 1.40 MeV, 7/2[624].

Assignment: $^{249}\text{Cf}(^{13}\text{C,3n})$ excit, parent of ^{255}No (1969Gh01,1971Gh03). $^{246}\text{Cm}(^{18}\text{O,5n})$, SF followed (1973Dr10).
    $^{249}\text{Cf}(^{13}\text{C,3n})$, measured SF/$\alpha$ (1981Be03). $^{248}\text{Cm}(^{15}\text{N,4n})$ excit, $^{245}\text{Cm}(^{18}\text{O,4n})$ (1985So03).

^{259}Rf Levels

Cross Reference (XREF) Flags

A	^{263}Sg α decay
B	$^{238}\text{U}(^{26}\text{Mg,5n})$

E(level)	$T_{1/2}$	XREF	Comments
0.0	2.4 s *4*	B	%α=92 *2*; %SF=8 *2*
			J^π: analogy to ^{253}Cf (N=155) suggests 7/2[613]. ^{259}Rf α decay does not seem to go to ^{255}No g.s. with J^π=(1/2$^+$). Therefore, J^π may not be the 1/2[620] Nilsson level as predicted by 1994Cw02.
			$T_{1/2}$: weighted average of 1.9 s +*13*−*5* (2006Gr24), 2.2 s +*17*−*8* (2004Fo08), 2.6 s +*14*−*7* (2004Mo14), 1.7 s +*8*−*5* (1994Gr08), 3.4 s *17* (1985So03), 3.0 s *13* (1981Be03), 3.2 s *8* (1973Dr10). Other value: 3 s (1969Gh01).
			%SF: weighted average of 6.3 *37* (1981Be03) from SF/α and 8 *2* (1973Dr10), 9 *3* (1985So03) from cross section calculations. Other: <20 (1971Gh02).
			%ε+%β^+: log $ft\approx6$ gives $T_{1/2}(\varepsilon+\beta^+)\approx1000$ s.
0.0+x[†]		A	E(level): X=10 from $Q(\alpha)$=9403 (systematics,2011AuZZ) and $E\alpha$=9250 *40* (1974Gh04).
203+x[†] *40*		A	E(level): E=203 from $Q(\alpha)(^{263}\text{Sg})$=9403 syst (2012Wa38) and $E\alpha$=9060 *40*.
			E(level): uncertainty in E(level) does not include the uncertainty in X.

[†] From ^{263}Sg α decay.