New Variables:

bodyMarkerForce(3\*numMarker),

double bodyMarkerVel(3\*numMarker),

double bodyNormalVectorCW(3\*numMarker), // the unit normal clockwise vector of the marker face

int MarkerInterpolateIndex (6\*numMarker),

double MarkerInterpolateRatio(6\*numMarker),

// the interpolation is implemented by the formula below

=Array[Index]\*Ratio+Array[Index+1]\*(1.0-Ration)

double MarkerPressure(2\*numMarker),

double MarkerInterpolateVelocity(6\*numMarker),

Initiate MarkerInterpolateIndex (3\*numMarker) & MarkerInterpolateRatio(3\*numMarker) in vega\_FEM\_initiate.

Move\_boundary()

// DO i=1,nPtsBodyMarker(iBody)

// xBodyMarker(iBody,i) = xBodyMarker(iBody,i) + dt\*uBodyMarker(iBody,i)

Compute\_marker\_vel

Read\_marker\_vel

Vega\_vel\_update //finished

N-S solver

drag\_lift\_solid

bodyMarkerForce[] is calculated.

vega\_deformation\_c\_(bodyMarkerForce[],bodyMarkerVel[]);

vega\_markerVel\_convergenceCheck //finished

if not, go to N-S solver

if Yes, vega\_reNewBodyPosition\_c() , and go to move\_boundary(),